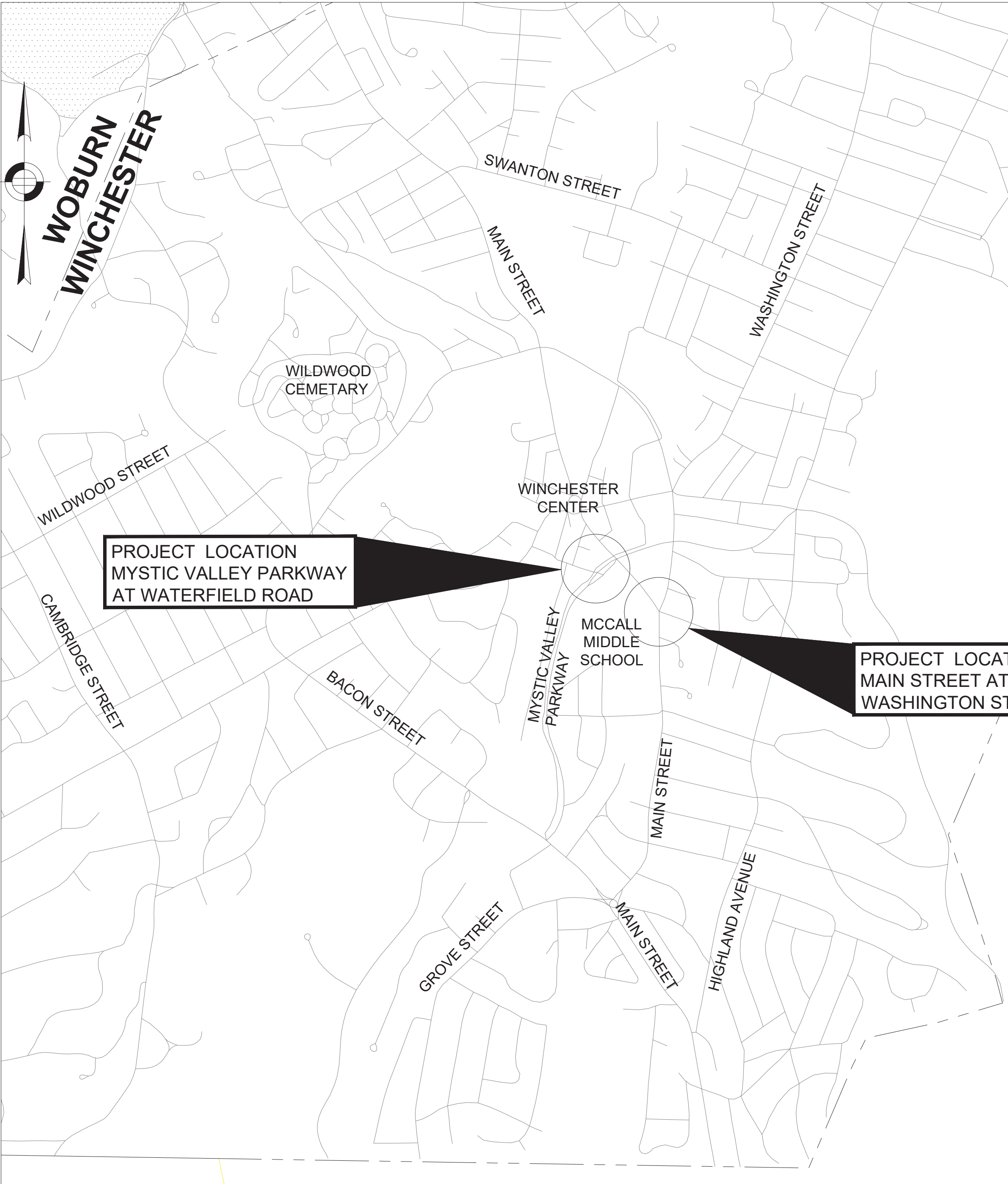


TOWN OF WINCHESTER

ROADWAY IMPROVEMENTS

MCCALL MIDDLE SCHOOL EXPANSION




LOCUS PLAN
1"=250'


ALL WORK SHALL CONFORM TO THESE PLANS, THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT) STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, THE MASSDOT SUPPLEMENTAL SPECIFICATIONS DATED JUNE 15, 2012, THE MASSDOT INTERIM SUPPLEMENTAL SPECIFICATIONS DATE OCTOBER 17, 2014, THE MASSDOT 2016 CONSTRUCTION STANDARD DETAILS, THE MASSDOT 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, 2009 EDITION, AND ALL INTERIM REVISIONS PUBLISHED BY FEDERAL HIGHWAY ADMINISTRATION.

INDEX

DWG NO.	SHEET NO.	DESCRIPTION
G.01	1	TITLE SHEET & INDEX
G.02	2	LEGEND & ABBREVIATIONS
TS.01-TS.02	3-4	TYPICAL SECTIONS
E.01-E.02	5-6	EXISTING CONDITIONS
D.01-D.02	7-8	DEMOLITION PLANS
C.01-C.02	9-10	CONSTRUCTION PLANS
CT.01-CT.03	11-13	CURB TIE PLANS
G.01-G.02	14-15	GRADING PLANS
WCR.01-WCR.02	16-17	WHEELCHAIR RAMP GRADING DETAILS
DW.01-DW.02	18-19	DRIVEWAY GRADING DETAILS
PM.01-PM.02	20-21	TRAFFIC SIGN & PAVEMENT MARKING PLANS
SS.01	22	SIGN SUMMARY
SP.01	23	SIGNAL PLAN
TTCP.01-TTCP.03	24-26	TEMPORARY TRAFFIC CONTROL PLANS
DU.01-DU.02	27-28	DRAINAGE & UTILITY PLANS
P.01	29	PLANTING PLAN
CD.01-CD.05	30-35	CONSTRUCTION DETAILS
CS.01-CS.04	36-39	CRITICAL CROSS SECTIONS

FINAL DESIGN

PROFESSIONAL CERTIFICATION				REUSE OF DOCUMENTS										PROJECT NO.	
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.		ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.										60139			
		DSGN	CBK										DATE		
		DR	RPI										3/18/2020		
		CHK	KMF										DRAWING NO.		
		APVD	ELG	NO.	DATE	REVISION					BY	APVD	G.01		
													SHEET NO.		
													1 OF 39		

	2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com	MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT	TITLE SHEET & INDEX
---	---	---	---------------------

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

TITLE SHEET & INDEX





















GENERAL SYMBOLS

EXISTING		PROPOSED		DESCRIPTION
	CB		CB	CATCH BASIN
				CATCH BASIN CURB INLET
	FP		FP	FLAG POLE
	GP		GP	GAS PUMP
	MB		MB	MAIL BOX
				POST SQUARE
				POST CIRCULAR
	WELL		WELL	WELL
	EHH		EHH	ELECTRIC HANDHOLE
				FENCE GATE POST
	GG		GG	GAS GATE
	BHL #		BHL #	BORING HOLE
	MW #		MW #	MONITORING WELL
	TP #		TP #	TEST PIT
				HYDRANT
				LIGHT POLE
	CO.BD.			COUNTY BOUND
				GPS POINT
				CABLE MANHOLE
				DRAINAGE MANHOLE
				ELECTRIC MANHOLE
				GAS MANHOLE
				MISC MANHOLE
				SEWER MANHOLE
				TELEPHONE MANHOLE
				WATER MANHOLE
	MHB		MHB	MASSACHUSETTS HIGHWAY BOUND
	MON			MONUMENT
	SB			STONE BOUND
	TB			TOWN OR CITY BOUND
				TRAVERSE OR TRIANGULATION STATION
	TPL or GUY		TPL or GUY	TROLLEY POLE OR GUY POLE
	HTP			TRANSMISSION POLE
	UFB		UFB	UTILITY POLE W/ FIREBOX
	UPDL		UPDL	UTILITY POLE WITH DOUBLE LIGHT
	ULT		ULT	UTILITY POLE W / 1 LIGHT
	UPL		UPL	UTILITY POLE
				BUSH
				TREE
				STUMP
	WG		WG	WATER GATE
	PM		PM	PARKING METER
				OVERHEAD CABLE/WIRE
				CURBING
				CONTOURS (ON-THE-GROUND SURVEY DATA)
				CONTOURS (PHOTOGRAMMETRIC DATA)
				UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
				UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
				UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
				UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
				UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
				UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
				BALANCED STONE WALL
				GUARD RAIL - STEEL POSTS
				GUARD RAIL - WOOD POSTS
				CHAIN LINK OR METAL FENCE
				WOOD FENCE
				TREE LINE
				SAWCUT LINE
				TOP OR BOTTOM OF SLOPE
				EDGE OF PAVEMENT
				LIMIT OF MICROMILLING AND OVERLAY
				BANK OF RIVER OR STREAM
				BORDER OF WETLAND
				100 FT WETLAND BUFFER
				200 FT RIVERFRONT BUFFER
				STATE HIGHWAY LAYOUT
				TOWN OR CITY LAYOUT
				COUNTY LAYOUT
				TOWN OR CITY BOUNDARY LINE
				PROPERTY LINE OR APPROXIMATE PROPERTY LINE
				EASEMENT

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
		EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
		RAILROAD SIGNAL
		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
		MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
		MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

PAVEMENT MARKINGS SYMBOLS


EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
		LEGEND "ONLY" - WHITE
		STOP LINE
		CROSSWALK
		SOLID WHITE LINE
		SOLID YELLOW LINE
		BROKEN WHITE LINE
		BROKEN YELLOW LINE
		DOTTED WHITE LINE
		DOTTED YELLOW LINE
		DOTTED WHITE LINE EXTENSION
		DOTTED YELLOW LINE EXTENSION
		DOUBLE WHITE LINE
		DOUBLE YELLOW LINE

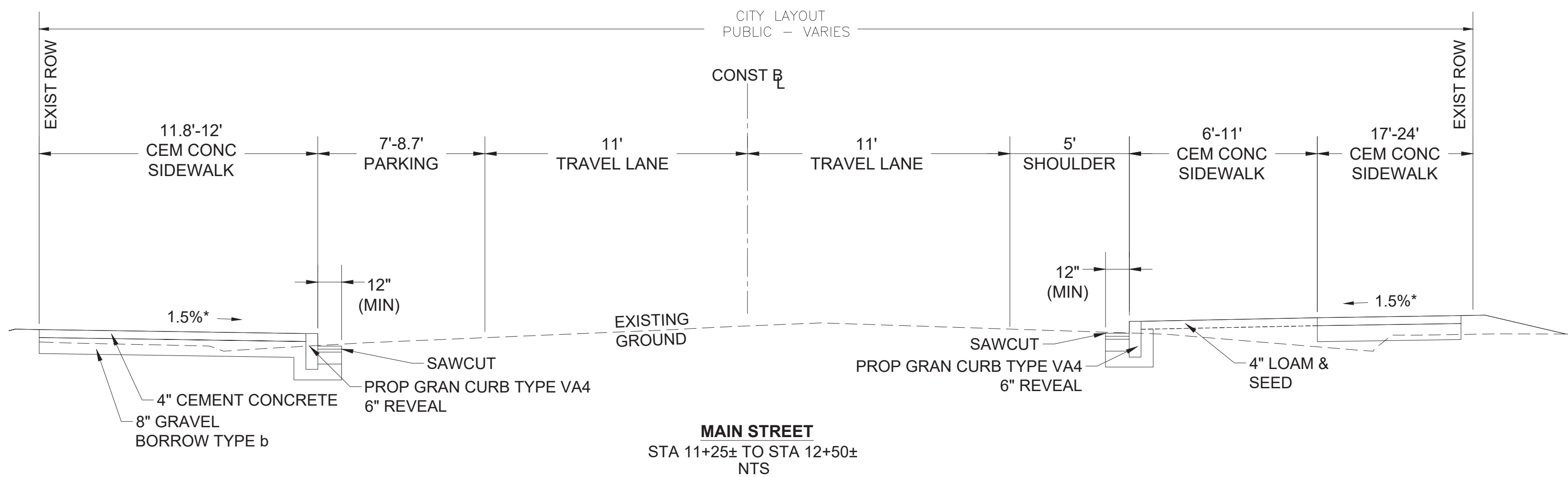
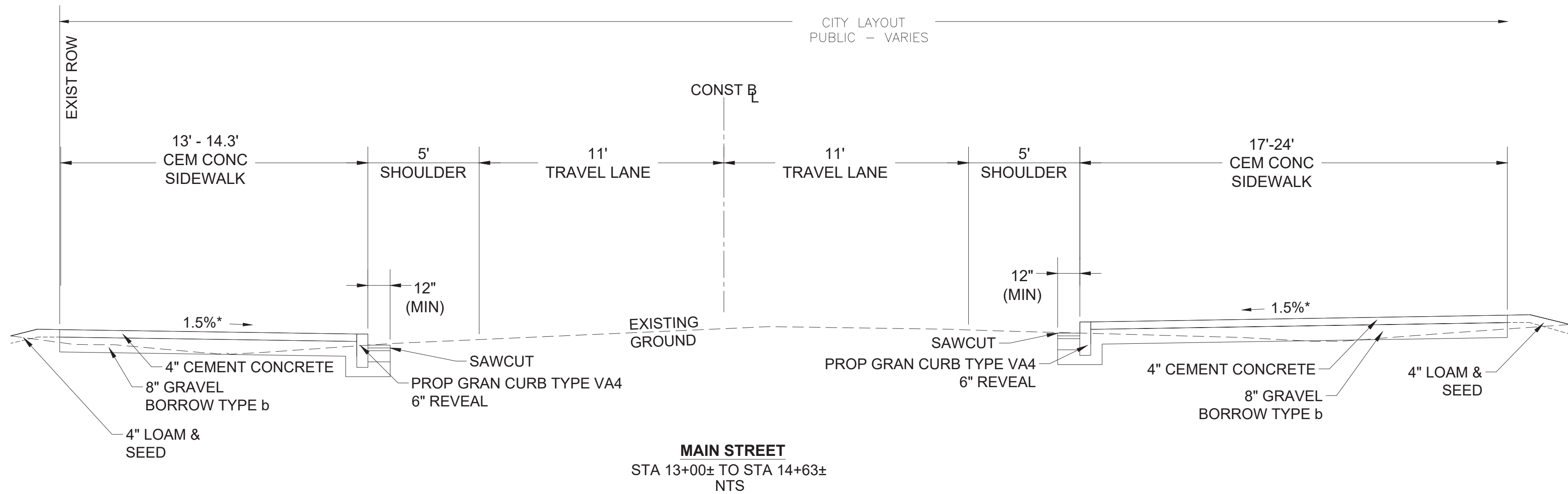
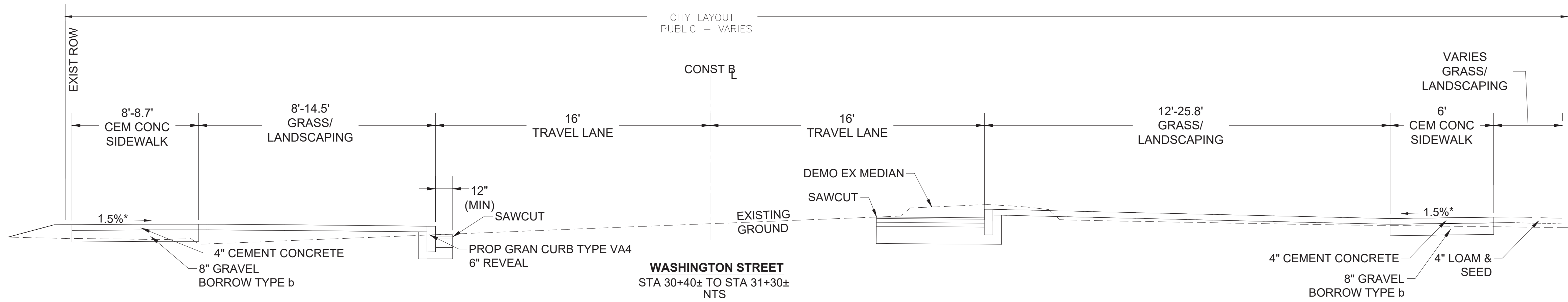
ABBREVIATIONS

GENERAL		GENERAL	
AADT	ANNUAL AVERAGE DAILY TRAFFIC	NO.	NUMBER
ABAN	ABANDON	PC	POINT OF CURVATURE
A.C.	ASPHALT CONCRETE	PCC	POINT OF COMPOUND CURVATURE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE	P.G.L.	PROFILE GRADE LINE
ADJ	ADJUST	PI	POINT OF INTERSECTION
APPROX.	APPROXIMATE	POC	POINT ON CURVE
BC	BOTTOM OF CURB	POT	POINT ON TANGENT
BD.	BOUND	PRC	POINT OF REVERSE CURVATURE
BIT.	BITUMINOUS	PROJ	PROJECT
BL	BASELINE	PROP	PROPOSED
BLDG	BUILDING	PSB	PLANTABLE SOIL BORROW
BM	BENCHMARK	PT	POINT OF TANGENCY
BO	BY OTHERS	PVC	POINT OF VERTICAL CURVATURE
BOS	BOTTOM OF SLOPE	PVI	POINT OF VERTICAL INTERSECTION
BR.	BRIDGE	PVMT	PAVEMENT
CB	CATCH BASIN	PVT	POINT OF VERTICAL TANGENCY
CBCI	CATCH BASIN WITH CURB INLET	PWW	PAVED WATER WAY
CC	CEMENT CONCRETE	R	RADIUS OF CURVATURE
CCM	CEMENT CONCRETE MASONRY	RCP	REINFORCED CONCRETE PIPE
CEM	CEMENT	R&D	REMOVE AND DISPOSE
CI	CURB INLET	RD	ROAD
CIP	CAST IRON PIPE	RDWY	ROADWAY
CIT	CHANGE IN TYPE	REM	REMOVE
CL	CENTERLINE	RET	RETAIN
CLF	CHAIN LINK FENCE	RET WALL	RETAINING WALL
CMP	CORRUGATED METAL PIPE	ROW	RIGHT OF WAY
CO.	COUNTY	R&R	REMOVE AND RESET
CONC	CONCRETE	RR	RAILROAD
CONT	CONTINUOUS	R&S	REMOVE AND STACK
CONST	CONSTRUCTION	RT	RIGHT
CR GR	CROWN GRADE	SB	STONE BOUND
CSP	CORRUGATED STEEL PIPE	SHLD	SHOULDER
DHV	DESIGN HOURLY VOLUME	SHLO	STATE HIGHWAY LAYOUT LINE
DI	DROP INLET	SMH	SEWER MANHOLE
DIA	DIAMETER	SSD	STOPPING SIGHT DISTANCE
DIP	DUCTILE IRON PIPE	ST	STREET
DW	STEADY DON'T WALK - PORTLAND ORANGE	STA	STATION
DWY	DRIVEWAY	SW	SIDEWALK
ELEV (or EL.)	ELEVATION	T	TANGENT DISTANCE OF CURVE/TRUCK %
EMB	EMBANKMENT	TAN	TANGENT
EOP	EDGE OF PAVEMENT	TC	TOP OF CURB
EXC	EXCAVATION	TEMP	TEMPORARY
EXIST (or EX)	EXISTING	TOS	TOP OF SLOPE
F&C	FRAME AND COVER	TYP	TYPICAL
F&G	FRAME AND GRATE	UP	UTILITY POLE
FDN.	FOUNDATION	VAR	VARIES
FLDSTN	FIELDSTONE	VC	VERTICAL CURVE
FYG	FLUORESCENT YELLOW- GREEN	VERT	VERTICAL
GAR	GARAGE	VGC	VERTICAL GRANITE CURB
GD	GROUND	WCR	WHEEL CHAIR RAMP
GG	GAS GATE	WG	WATER GATE
GI	GUTTER INLET	WIP	WROUGHT IRON PIPE
GIP	GALVANIZED IRON PIPE	WM	WATER METER/WATER MAIN
GRAN	GRANITE	WSO	WATER SHUT OFF VALVE
GRAV	GRAVEL	X-SECT	CROSS SECTION
GRD	GUARD		
HDW	HEADWALL		
HMA	HOT MIX ASPHALT		
HOR	HORIZONTAL		
HYD	HYDRANT		
INV	INVERT		
JCT	JUNCTION		
L	LENGTH OF CURVE		
LB	LEACH BASIN		
LP	LIGHT POLE		
LT	LEFT		
MAX	MAXIMUM		
MB	MAILBOX		
MH	MANHOLE		
MHB	MASSACHUSETTS HIGHWAY BOUND		
MIN	MINIMUM		
NIC	NOT IN CONTRACT		

FINAL DESIGN

FINAL DESIGN

PROFESSIONAL CERTIFICATION				REUSE OF DOCUMENTS										TOOLE DESIGN										MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT										LEGEND & ABBREVIATIONS										PROJECT NO. 60139	
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.				ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.										2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com																														DATE 3/18/2020	
				DSGN CBK										DRAWING NO. G.02																															
				DR RPI																																									
				CHK KMF																																									
				APVD ELG		NO.		DATE		REVISION		BY		APVD		SHEET NO. 2 OF 39																													



PAVEMENT NOTES:

CEMENT CONCRETE SIDEWALK/WHEELCHAIR RAMP
SURFACE: 4" CEMENT CONCRETE
(4000 PSI, 3/4", 610, AIR-ENTRAINED)

BASE: 8" GRAVEL BORROW TYPE b

CEMENT CONCRETE DRIVEWAY
SURFACE: 6" CEMENT CONCRETE
(4000 PSI, 3/4", 610, AIR-ENTRAINED)

BASE: 8" GRAVEL BORROW TYPE B

HOT MIX ASPHALT (HMA) SIDEWALK/DRIVEWAY
SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
2.0" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5)

BASE: 8" GRAVEL BORROW TYPE b

MILLING & OVERLAY SURFACE COURSE
SURFACE: 1.5" SUPERPAVE SURFACE COURSE (SSC-9.5)
PAVEMENT MILLING 1.5" MICROMILLING

BRICK SIDEWALK
SURFACE: BRICK PAVER (MATCH EXISTING)
3/4" SAND ASPHALT SETTING BED

BASE: 4" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5)

SUB-BASE: 6" GRAVEL BORROW TYPE b

FULL DEPTH PAVEMENT CONSTRUCTION
SURFACE: 1.0" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
5.50" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)
(2 - 2.75" LIFTS) OVER

BASE: 12" GRAVEL BORROW TYPE b

FULL DEPTH PAVEMENT CONSTRUCTION (<4' WIDE)
SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER
1.5" SUPERPAVE INTERMEDIATE COURSE 9.5 (SIC-9.5)

BASE: 6" CEMENT CONCRETE BASE COURSE OVER
(HIGH EARLY STRENGTH)

SUB-BASE 8" GRAVEL BORROW TYPE b
(SEE GENERAL PAVEMENT NOTE 1)

FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE COMMONWEALTH OF
MASSACHUSETTS,
LICENSE NO. 49208,
EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT.
REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK					
DR	RPI					
CHK	KMF					
APVD	ELG	NO.	DATE	REVISION	BY	APVD

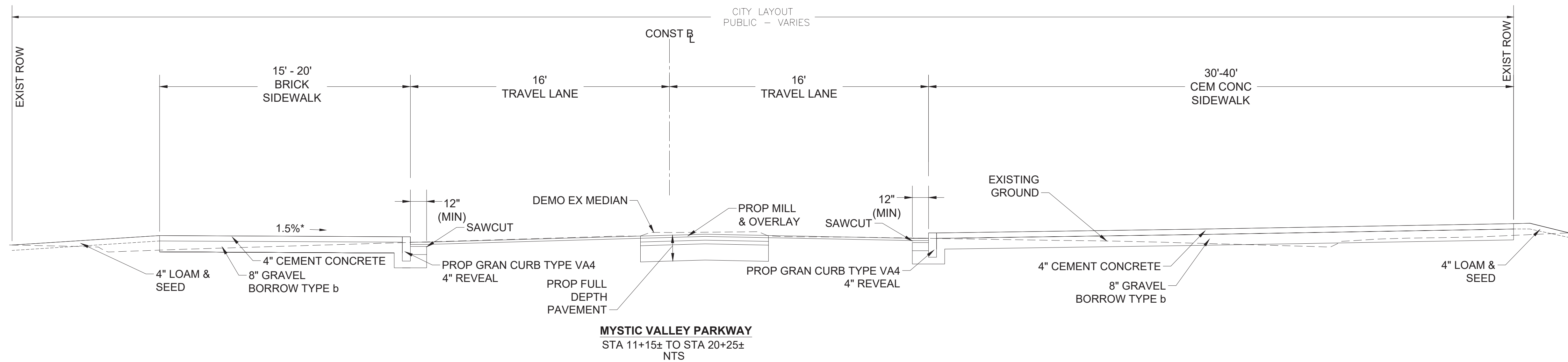
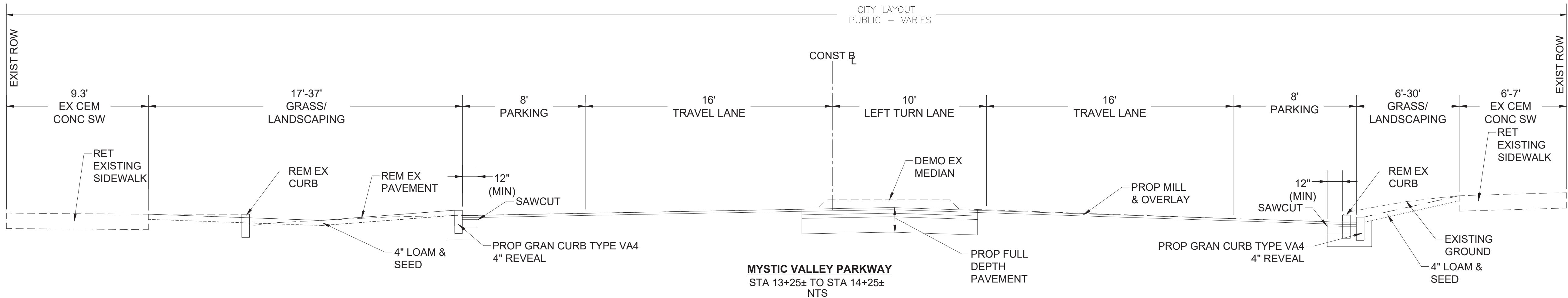
TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MAIN STREET AT WASHINGTON STREET
TYPICAL SECTIONS

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	TS.01
SHEET NO.	3 OF 39



FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE COMMONWEALTH OF
MASSACHUSETTS,
LICENSE NO. 49208,
EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT.
REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK						
DR	RPI						
CHK	KMF						
APVD	ELG	NO.	DATE	REVISION	BY	APVD	

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MYSTIC VALLEY PARKWAY
TYPICAL SECTIONS

PROJECT NO.

60139

DATE

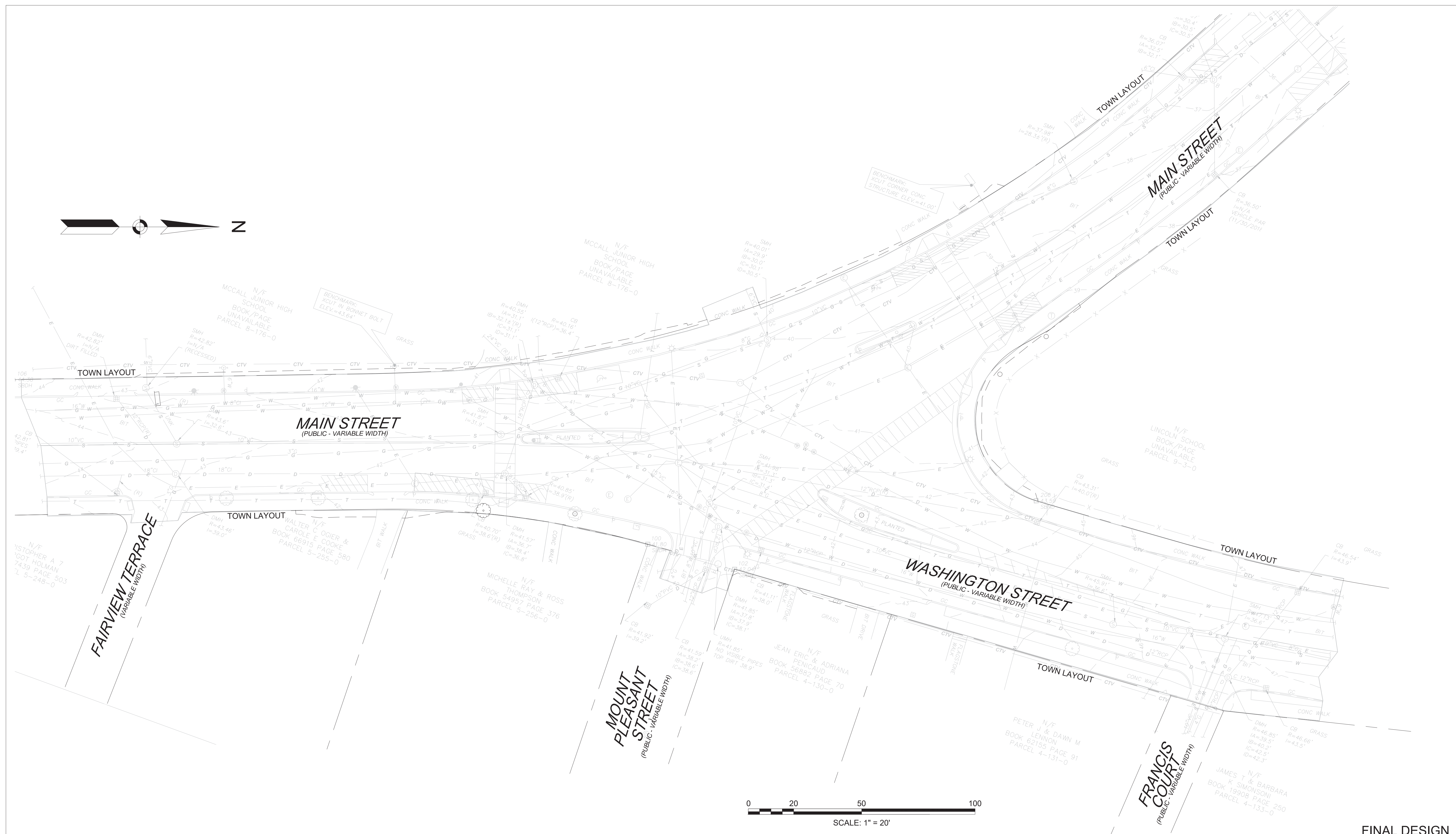
3/18/2020

DRAWING NO.



TS.02

SHEET NO.

4 OF 39



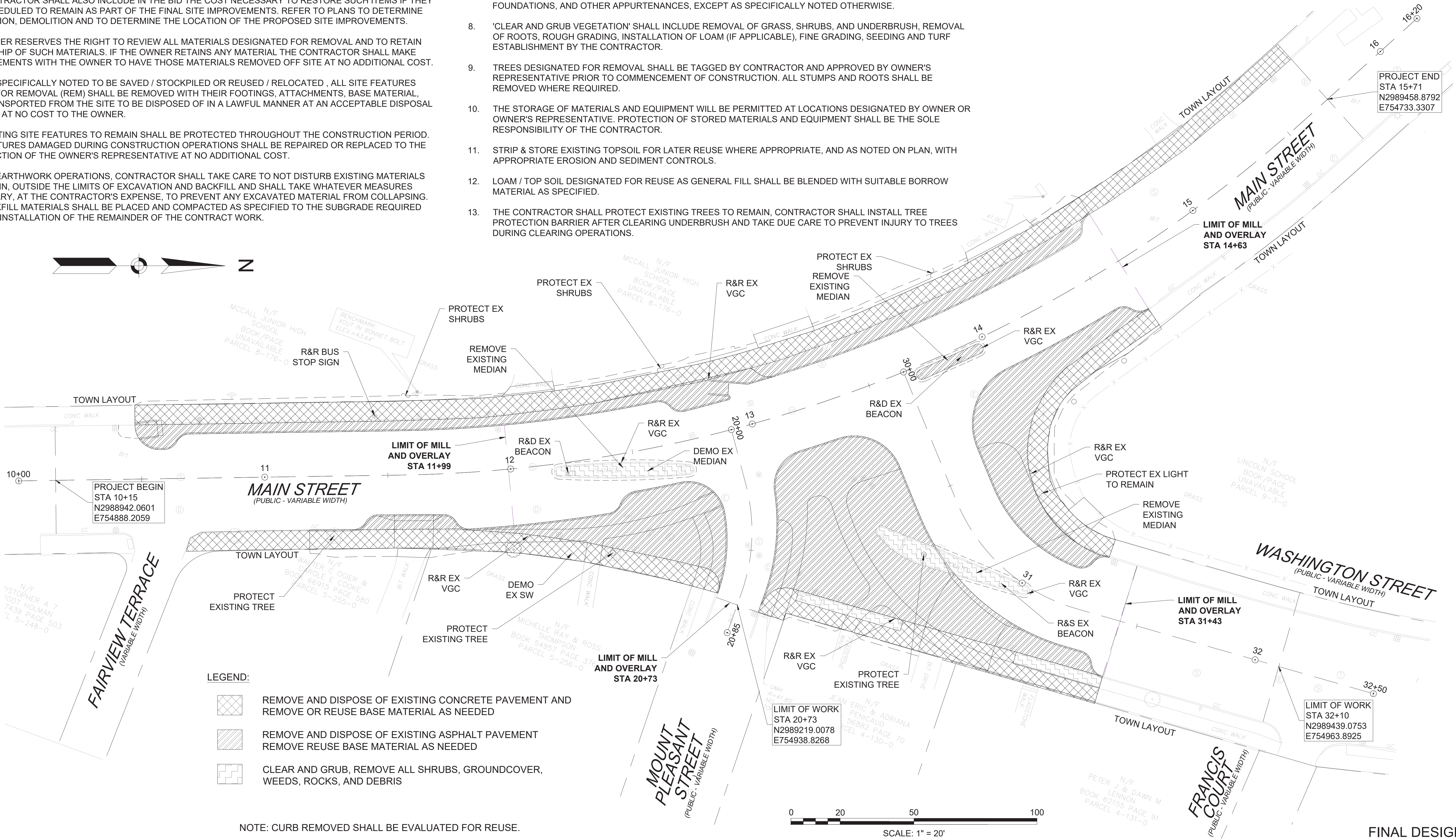
FINAL DESIGN

<div>PROFESSIONAL CERTIFICATION</div> <div>I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.</div> <div></div>	<div>REUSE OF DOCUMENTS</div> <div>ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.</div>										<div></div> <div>2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com</div>		<div>MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT</div>		<div>MAIN STREET AT WASHINGTON STREET EXISTING CONDITIONS</div>				<div>PROJECT NO.</div> <div>60139</div>	
	<div>DSGN</div> <div>CBK</div>								<div>DATE</div> <div>3/18/2020</div>		<div>DRAWING NO.</div> <div>E.01</div>									
	<div>DR</div> <div>RPI</div>										<div>SHEET NO.</div> <div>5 OF 39</div>									
	<div>CHK</div> <div>KMF</div>																			
	<div>APVD</div> <div>ELG</div>		<div>NO.</div>	<div>DATE</div>	<div>REVISION</div>				<div>BY</div>	<div>APVD</div>										

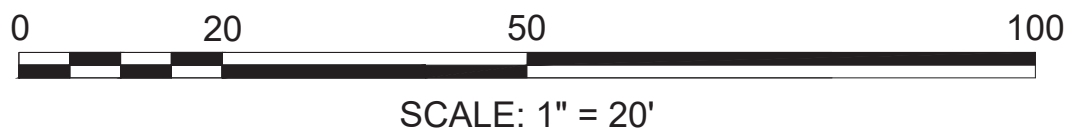
DEMOLITION & SITE PREPARATION NOTES:

1. THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
2. THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS. IF THE OWNER RETAINS ANY MATERIAL THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.
3. UNLESS SPECIFICALLY NOTED TO BE SAVED / STOCKPILED OR REUSED / RELOCATED , ALL SITE FEATURES CALLED FOR REMOVAL (REM) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC., TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.
4. ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
5. DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN, OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.

6. IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER, TO REUSE EXISTING GRAVEL IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW.
7. ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE.
8. 'CLEAR AND GRUB VEGETATION' SHALL INCLUDE REMOVAL OF GRASS, SHRUBS, AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM (IF APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.
9. TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL STUMPS AND ROOTS SHALL BE REMOVED WHERE REQUIRED.
10. THE STORAGE OF MATERIALS AND EQUIPMENT WILL BE PERMITTED AT LOCATIONS DESIGNATED BY OWNER OR OWNER'S REPRESENTATIVE. PROTECTION OF STORED MATERIALS AND EQUIPMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11. STRIP & STORE EXISTING TOPSOIL FOR LATER REUSE WHERE APPROPRIATE, AND AS NOTED ON PLAN, WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
12. LOAM / TOP SOIL DESIGNATED FOR REUSE AS GENERAL FILL SHALL BE BLENDED WITH SUITABLE BORROW MATERIAL AS SPECIFIED.
13. THE CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN, CONTRACTOR SHALL INSTALL TREE PROTECTION BARRIER AFTER CLEARING UNDERBRUSH AND TAKE DUE CARE TO PREVENT INJURY TO TREES DURING CLEARING OPERATIONS.



NOTE: CURB REMOVED SHALL BE EVALUATED FOR REUSE.



FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK						
DR	RPI						
CHK	KMF						
APVD	ELG	NO.	DATE	REVISION	BY	APVD	

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MAIN STREET AT WASHINGTON STREET
DEMOLITION PLAN

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	D.01
SHEET NO.	7 OF 39

DEMOLITION & SITE PREPARATION NOTES:

1.

THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EX SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
2.

THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS. IF THE OWNER RETAINS ANY MATERIAL THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.
3.

UNLESS SPECIFICALLY NOTED TO BE SAVED / STOCKPILED OR REUSED / RELOCATED , ALL SITE FEATURES CALLED FOR REMOVAL (REM) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC., TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.
4.

ALL EX SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
5.

DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EX MATERIALS TO REMAIN, OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.
6.

IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER, TO REUSE EX GRAVEL IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW.
7.

ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE.
8.

'CLEAR AND GRUB VEGETATION' SHALL INCLUDE REMOVAL OF GRASS, SHRUBS, AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM (IF APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.
9.

TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL STUMPS AND ROOTS SHALL BE REMOVED WHERE REQUIRED.
10.

THE STORAGE OF MATERIALS AND EQUIPMENT WILL BE PERMITTED AT LOCATIONS DESIGNATED BY OWNER OR OWNER'S REPRESENTATIVE. PROTECTION OF STORED MATERIALS AND EQUIPMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11.

STRIP & STORE EX TOPSOIL FOR LATER REUSE WHERE APPROPRIATE, AND AS NOTED ON PLAN, WITH

APPROPRIATE EROSION AND SEDIMENT CONTROLS.

12.

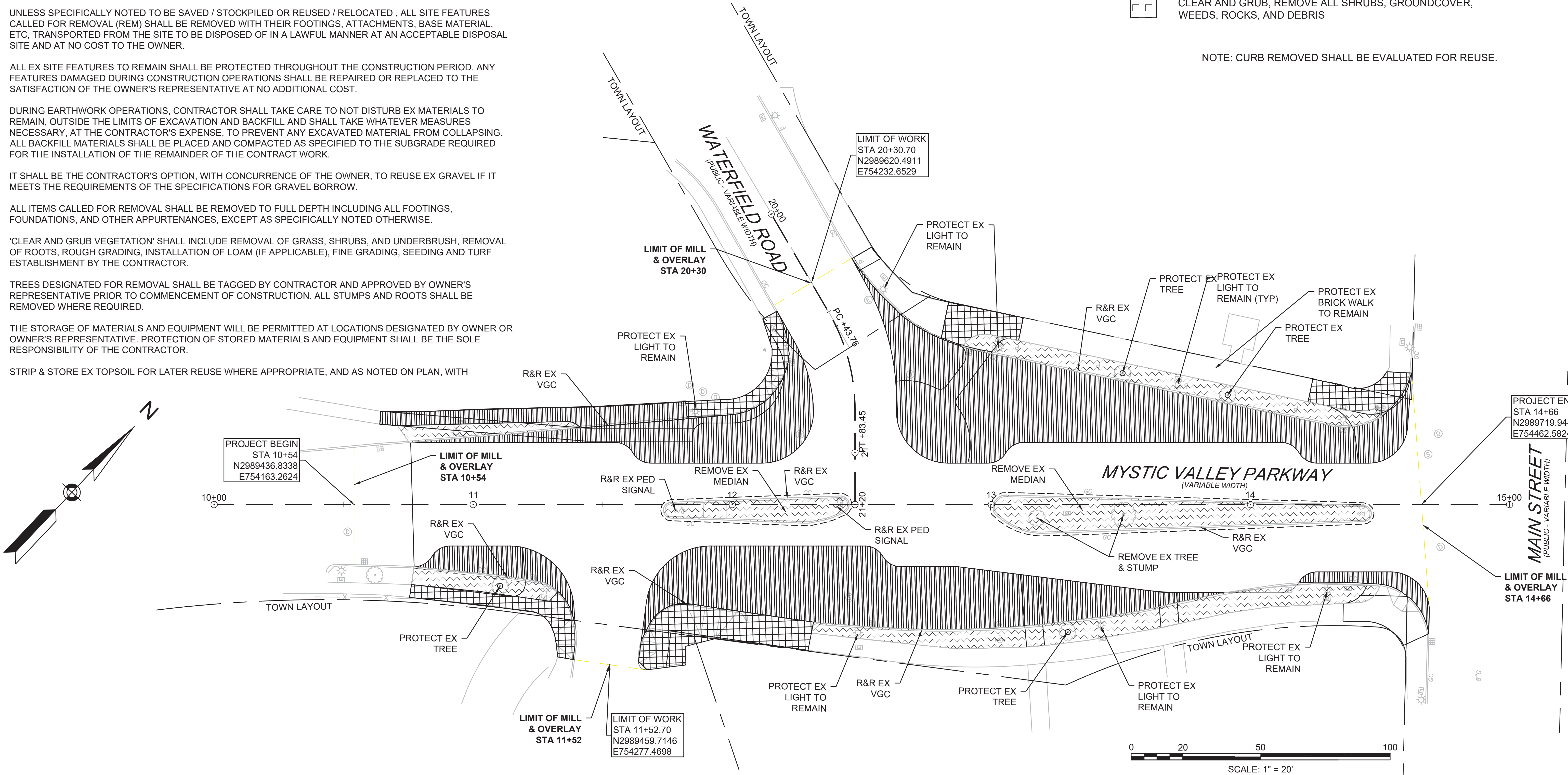
LOAM / TOP SOIL DESIGNATED FOR REUSE AS GENERAL FILL SHALL BE BLENDED WITH SUITABLE BORROW MATERIAL AS SPECIFIED.
13.

THE CONTRACTOR SHALL PROTECT EX TREES TO REMAIN, CONTRACTOR SHALL INSTALL TREE PROTECTION BARRIER AFTER CLEARING UNDERBRUSH AND TAKE DUE CARE TO PREVENT INJURY TO TREES DURING CLEARING OPERATIONS.

LEGEND:

- REMOVE AND DISPOSE OF EX CONCRETE PAVEMENT AND REMOVE OR REUSE BASE MATERIAL AS NEEDED
- REMOVE AND DISPOSE OF EX ASPHALT PAVEMENT REMOVE REUSE BASE MATERIAL AS NEEDED
- CLEAR AND GRUB, REMOVE ALL SHRUBS, GROUNDCOVER, WEEDS, ROCKS, AND DEBRIS

NOTE: CURB REMOVED SHALL BE EVALUATED FOR REUSE.



FINAL DESIGN

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.		REUSE OF DOCUMENTS ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.						PROJECT NO. 60139	
		DSGN	CBK					DATE	3/18/2020
		DR	RPI					DRAWING NO.	D.02
		CHK	KMF					SHEET NO.	8 OF 39
		APVD	ELG	NO.	DATE	REVISION	BY	APVD	

TOOLE

DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MYSTIC VALLEY PARKWAY
DEMOLITION PLAN

GENERAL NOTES:

1.

THIS PLAN IS BASED UPON AN ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. IN OCTOBER AND NOVEMBER, 2018.
2.


HORIZONTAL DATUM IS THE NORTH AMERICAN DATUM OF 1983 (NAD 83) AS DERIVED FROM GPS SURVEY PERFORMED BY BSC GROUP, INC.
3.

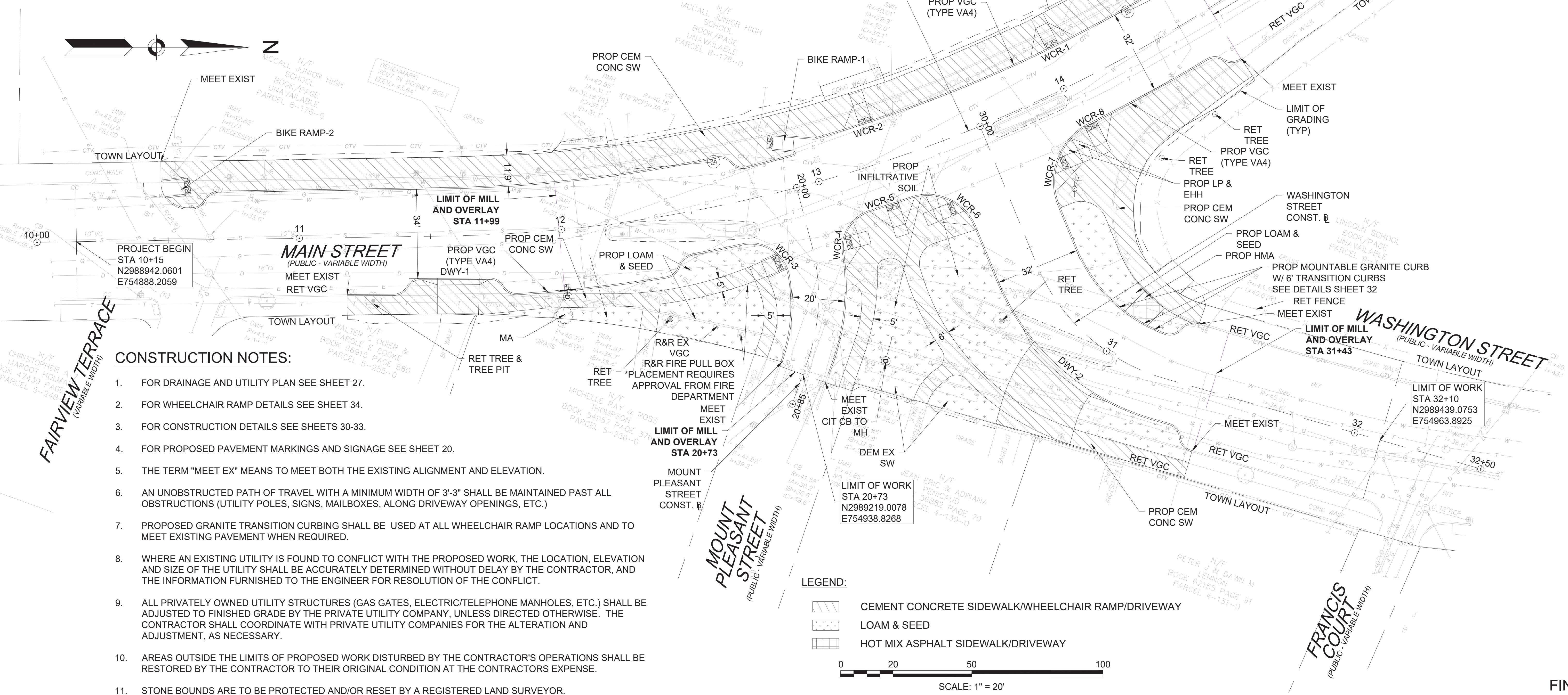
VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AS DERIVED FROM GPS SURVEY PERFORMED BY BSC GROUP, INC.

UTILITY NOTE:

1.

EXISTING UTILITIES, WHERE SHOWN HEREON, ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH WINCHESTER DEPARTMENT OF PUBLIC WORKS AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OR UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.


PROPOSED PLANTING TABLE						
ABBREVIATION	SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
MA		1	MAACKIA AMURENSIS	AMUR MAACKIA	2"-2.5"	





CONSTRUCTION NOTES:

1. FOR DRAINAGE AND UTILITY PLAN SEE SHEET 27.
2. FOR WHEELCHAIR RAMP DETAILS SEE SHEET 34.
3. FOR CONSTRUCTION DETAILS SEE SHEETS 30-33.
4. FOR PROPOSED PAVEMENT MARKINGS AND SIGNAGE SEE SHEET 20.
5. THE TERM "MEET EX" MEANS TO MEET BOTH THE EXISTING ALIGNMENT AND ELEVATION.
6. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 3'-3" SHALL BE MAINTAINED PAST ALL OBSTRUCTIONS (UTILITY POLES, SIGNS, MAILBOXES, ALONG DRIVEWAY OPENINGS, ETC.)
7. PROPOSED GRANITE TRANSITION CURBING SHALL BE USED AT ALL WHEELCHAIR RAMP LOCATIONS AND TO MEET EXISTING PAVEMENT WHEN REQUIRED.
8. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
9. ALL PRIVATELY OWNED UTILITY STRUCTURES (GAS GATES, ELECTRIC/TELEPHONE MANHOLES, ETC.) SHALL BE ADJUSTED TO FINISHED GRADE BY THE PRIVATE UTILITY COMPANY, UNLESS DIRECTED OTHERWISE. THE CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY COMPANIES FOR THE ALTERATION AND ADJUSTMENT, AS NECESSARY.
10. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE.
11. STONE BOUNDS ARE TO BE PROTECTED AND/OR RESET BY A REGISTERED LAND SURVEYOR.

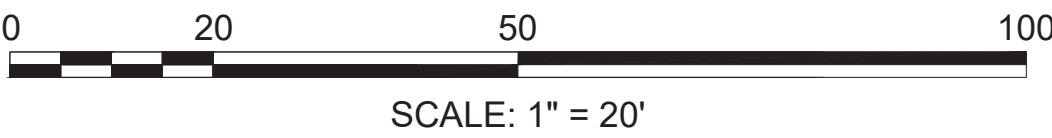
LEGEND:

- 

CEMENT CONCRETE SIDEWALK/WHEELCHAIR RAMP/DRIVEWAY
- 

LOAM & SEED
- 

HOT MIX ASPHALT SIDEWALK/DRIVEWAY



FINAL DESIGN

PROFESSIONAL CERTIFICATION		REUSE OF DOCUMENTS						TOOLE DESIGN		MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT		MAIN STREET AT WASHINGTON STREET CONSTRUCTION PLAN		PROJECT NO. 60139	
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.		ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.						<div><div>2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com</div></div>						DATE 3/18/2020	
		DSGN	CBK											DRAWING NO. C.01	
		DR	RPI											SHEET NO. 9 OF 39	
		CHK	KMF												
		APVD	ELG	NO.	DATE	REVISION		BY	APVD						

CONSTRUCTION NOTES:

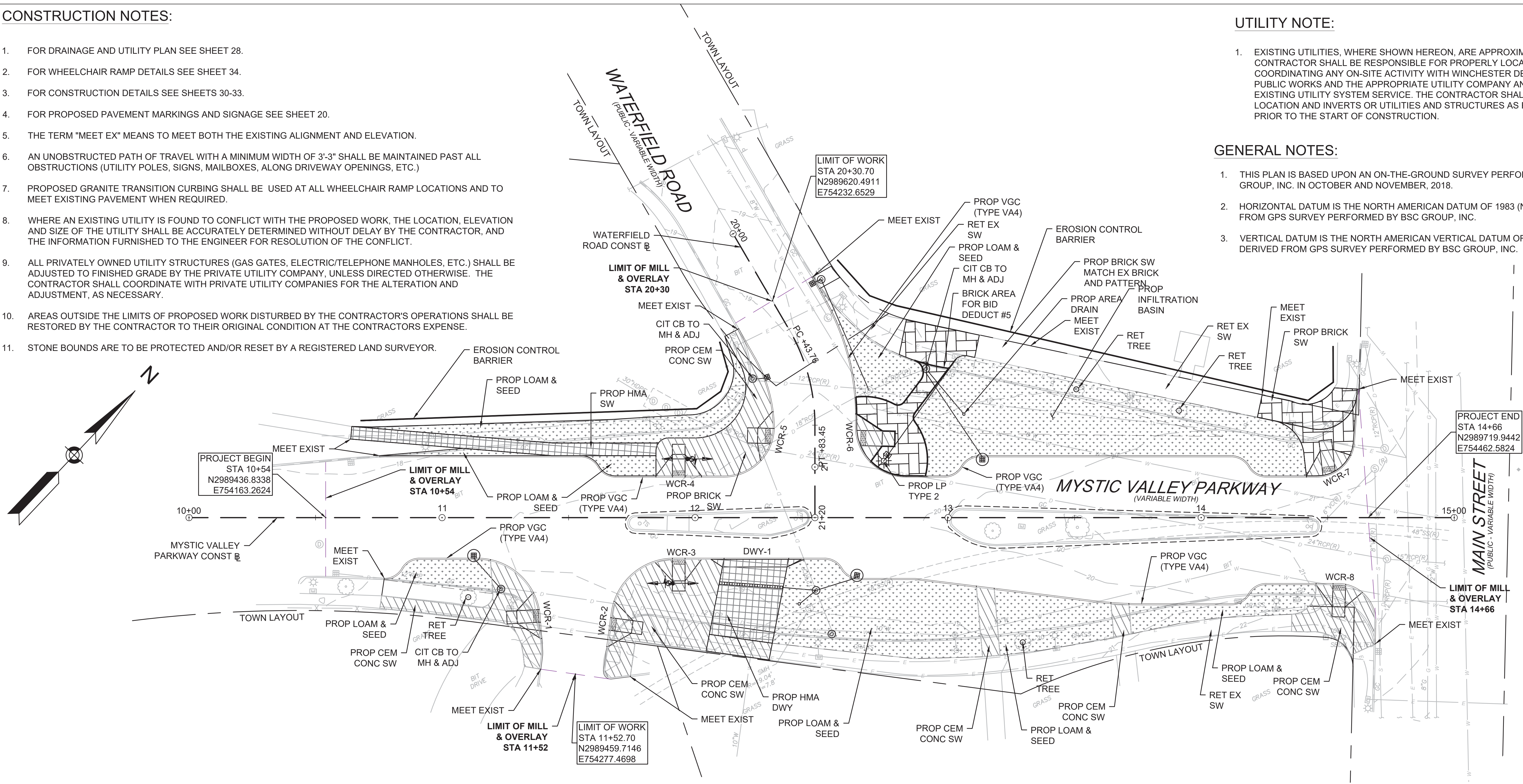
- FOR DRAINAGE AND UTILITY PLAN SEE SHEET 28.
- FOR WHEELCHAIR RAMP DETAILS SEE SHEET 34.
- FOR CONSTRUCTION DETAILS SEE SHEETS 30-33.
- FOR PROPOSED PAVEMENT MARKINGS AND SIGNAGE SEE SHEET 20.
- THE TERM "MEET EX" MEANS TO MEET BOTH THE EXISTING ALIGNMENT AND ELEVATION.
- AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 3'-3" SHALL BE MAINTAINED PAST ALL OBSTRUCTIONS (UTILITY POLES, SIGNS, MAILBOXES, ALONG DRIVEWAY OPENINGS, ETC.)
- PROPOSED GRANITE TRANSITION CURBING SHALL BE USED AT ALL WHEELCHAIR RAMP LOCATIONS AND TO MEET EXISTING PAVEMENT WHEN REQUIRED.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- ALL PRIVATELY OWNED UTILITY STRUCTURES (GAS GATES, ELECTRIC/TELEPHONE MANHOLES, ETC.) SHALL BE ADJUSTED TO FINISHED GRADE BY THE PRIVATE UTILITY COMPANY, UNLESS DIRECTED OTHERWISE. THE CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY COMPANIES FOR THE ALTERATION AND ADJUSTMENT, AS NECESSARY.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE.
- STONE BOUNDS ARE TO BE PROTECTED AND/OR RESET BY A REGISTERED LAND SURVEYOR.

UTILITY NOTE:

- EXISTING UTILITIES, WHERE SHOWN HEREON, ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH WINCHESTER DEPARTMENT OF PUBLIC WORKS AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OR UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.

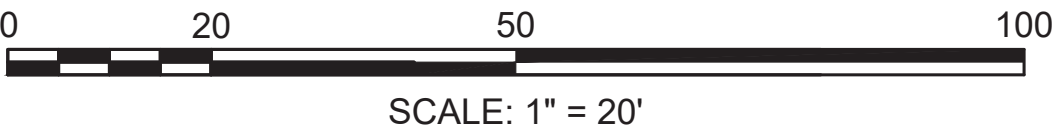
GENERAL NOTES:

- THIS PLAN IS BASED UPON AN ON-THE-GROUND SURVEY PERFORMED BY BSC GROUP, INC. IN OCTOBER AND NOVEMBER, 2018.
- HORIZONTAL DATUM IS THE NORTH AMERICAN DATUM OF 1983 (NAD 83) AS DERIVED FROM GPS SURVEY PERFORMED BY BSC GROUP, INC.
- VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AS DERIVED FROM GPS SURVEY PERFORMED BY BSC GROUP, INC.



LEGEND:

- CEMENT CONCRETE SIDEWALK/WHEELCHAIR RAMP/DRIVEWAY
- LOAM & SEED
- BRICK SIDEWALK
- HOT MIX ASPHALT SIDEWALK/DRIVEWAY



FINAL DESIGN

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.		REUSE OF DOCUMENTS ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.										PROJECT NO.	60139
		DSGN	CBK									DATE	3/18/2020
		DR	RPI									DRAWING NO.	C.02
		CHK	KMF									SHEET NO.	10 OF 39
		APVD	ELG	NO.	DATE		REVISION		BY	APVD			

TOOLE

DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

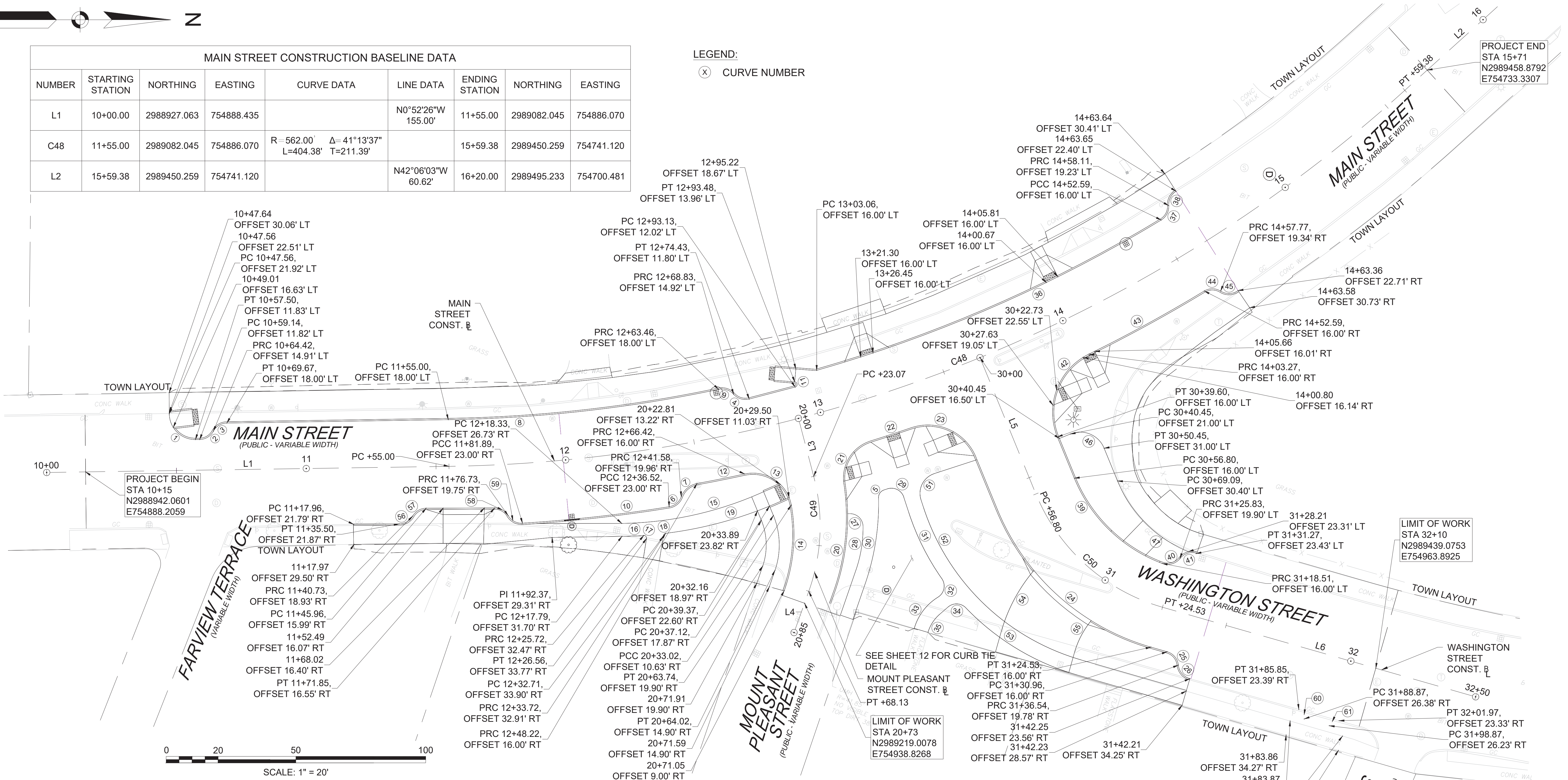
MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MYSTIC VALLEY PARKWAY
CONSTRUCTION PLAN



MAIN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	10+00.00	2988927.063	754888.435		N0°52'26"W 155.00'	11+55.00	2989082.045	754886.070
C48	11+55.00	2989082.045	754886.070	R=562.00' Δ=41°13'37" L=404.38' T=211.39'		15+59.38	2989450.259	754741.120
L2	15+59.38	2989450.259	754741.120		N42°06'03"W 60.62'	16+20.00	2989495.233	754700.481

LEGEND:
X CURVE NUMBER



MOUNT PLEASANT STREET CONSTRUCTION BASELINE DATA							
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	EASTING
L3	20+00.00	2989216.663	754867.588		N75°14'20"E 23.07'	20+23.07	2989222.542
C49	20+23.07	2989222.542	754889.901	R=75.00' Δ=34°25'17" L=45.06' T=23.23'		20+68.13	2989220.645
L4	20+68.13	2989220.645	754934.243		S70°20'23"E 16.87'	20+85.00	2989214.970

WASHINGTON STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L5	30+00.00	2989286.601	754844.155		N67°42'50"E 56.80'	30+56.80	2989308.141	754896.711
C50	30+56.80	2989308.141	754896.711	R=75.00' Δ=51°44'31" L=67.73' T=36.37'		31+24.53	2989356.901	754940.373
L6	31+24.53	2989356.901	754940.373		N15°58'19"E 125.47'	32+50.00	2989477.529	754974.899

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE COMMONWEALTH OF
MASSACHUSETTS,
LICENSE NO. 49208,
EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT.
REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK							
DR	RPI							
CHK	KMF							
APVD	ELG	NO.	DATE	REVISION	BY	APVD		

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

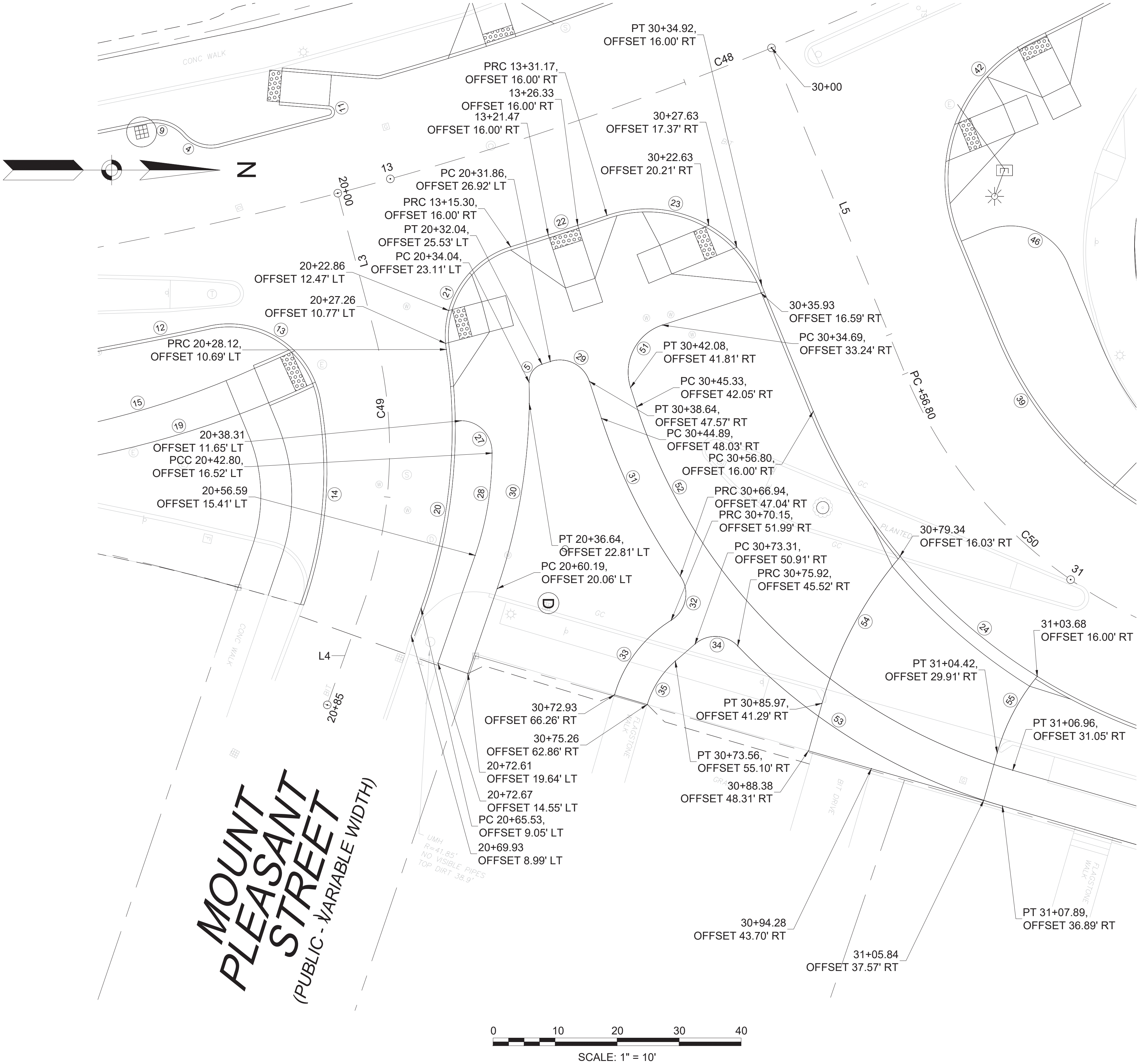
MAIN STREET AT WASHINGTON STREET
CURB TIE PLAN

FINAL DESIGN

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	CT.01
SHEET NO.	11 OF 39

CURVE TABLE				
CURVE #	LENGTH	DIRECTION/DELTA	RADIUS	TANGENT
1	15.75	90°13'41"	10.00	10.04
2	6.42	61°20'15"	6.00	3.56
3	6.39	61°00'41"	6.00	3.54
4	6.63	63°19'56"	6.00	3.70
5	3.84	73°21'42"	3.00	2.23
6	6.36	60°44'18"	6.00	3.51
7	8.28	59°19'13"	8.00	4.56
8	104.99	11°03'26"	544.00	52.66
9	6.34	60°34'03"	6.00	3.50
10	56.86	5°34'10"	585.00	28.45
11	2.80	160°37'42"	1.00	5.86
12	18.72	1°51'21"	578.00	9.36
13	24.07	91°55'58"	15.00	15.51
14	33.47	29°57'41"	64.00	17.13
15	63.45	25°34'32"	142.15	32.26
16	8.42	3°05'32"	156.00	4.21
17	1.80	102°57'26"	1.00	1.26
18	1.29	73°55'48"	1.00	0.75
19	49.71	18°15'30"	156.00	25.07
20	42.35	28°12'54"	86.00	21.61
21	21.29	81°20'17"	15.00	12.89
22	16.32	1°37'05"	578.00	8.16
23	30.21	86°32'55"	20.00	18.83
24	82.18	51°44'31"	91.00	44.13
25	7.15	68°17'57"	6.00	4.07
26	7.29	69°34'31"	6.00	4.17
27	8.14	93°16'33"	5.00	5.29
28	16.81	19°20'39"	49.79	8.49
29	7.85	90°00'00"	5.00	5.00
30	30.03	18°00'57"	95.51	15.14
31	28.55	17°02'21"	96.00	14.38
32	8.15	93°22'29"	5.00	5.30
33	15.45	42°09'46"	21.00	8.10
34	7.61	87°09'45"	5.00	4.76
35	8.45	32°16'20"	15.00	4.34
36	145.27	15°14'38"	546.00	73.06
37	6.57	62°45'40"	6.00	3.66
38	6.52	62°17'45"	6.00	3.63
39	48.54	47°08'30"	59.00	25.74
40	7.58	72°24'13"	6.00	4.39
41	7.24	69°07'04"	6.00	4.13
42	37.57	86°06'05"	25.00	23.35
43	50.72	5°01'41"	578.00	25.38
44	6.64	63°23'48"	6.00	3.71
45	7.12	67°57'05"	6.00	4.04

CURVE TABLE				
CURVE #	LENGTH	DIRECTION/DELTA	RADIUS	TANGENT
46	15.71	90°00'00"	10.00	10.00
47	39.61	45°23'05"	50.00	20.91
51	12.57	90°00'00"	8.00	8.00
52	87.75	55°51'53"	90.00	47.72
53	50.45	30°06'27"	96.00	25.82
54	27.05	24°28'04"	63.35	13.74
55	14.04	23°39'43"	34.00	7.12
56	6.28	60°00'00"	6.00	3.46
57	6.28	60°00'00"	6.00	3.46
58	6.24	59°36'31"	6.00	3.44
59	6.60	63°00'02"	6.00	3.68
60	4.71	90°00'00"	3.00	3.00
61	4.71	90°00'00"	3.00	3.00



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE COMMONWEALTH OF
MASSACHUSETTS,
LICENSE NO. 49208,
EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT.
REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK				
DR	RPI				
CHK	KMF				
APVD	ELG				

NO.	DATE	REVISION	BY	APVD
-----	------	----------	----	------

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

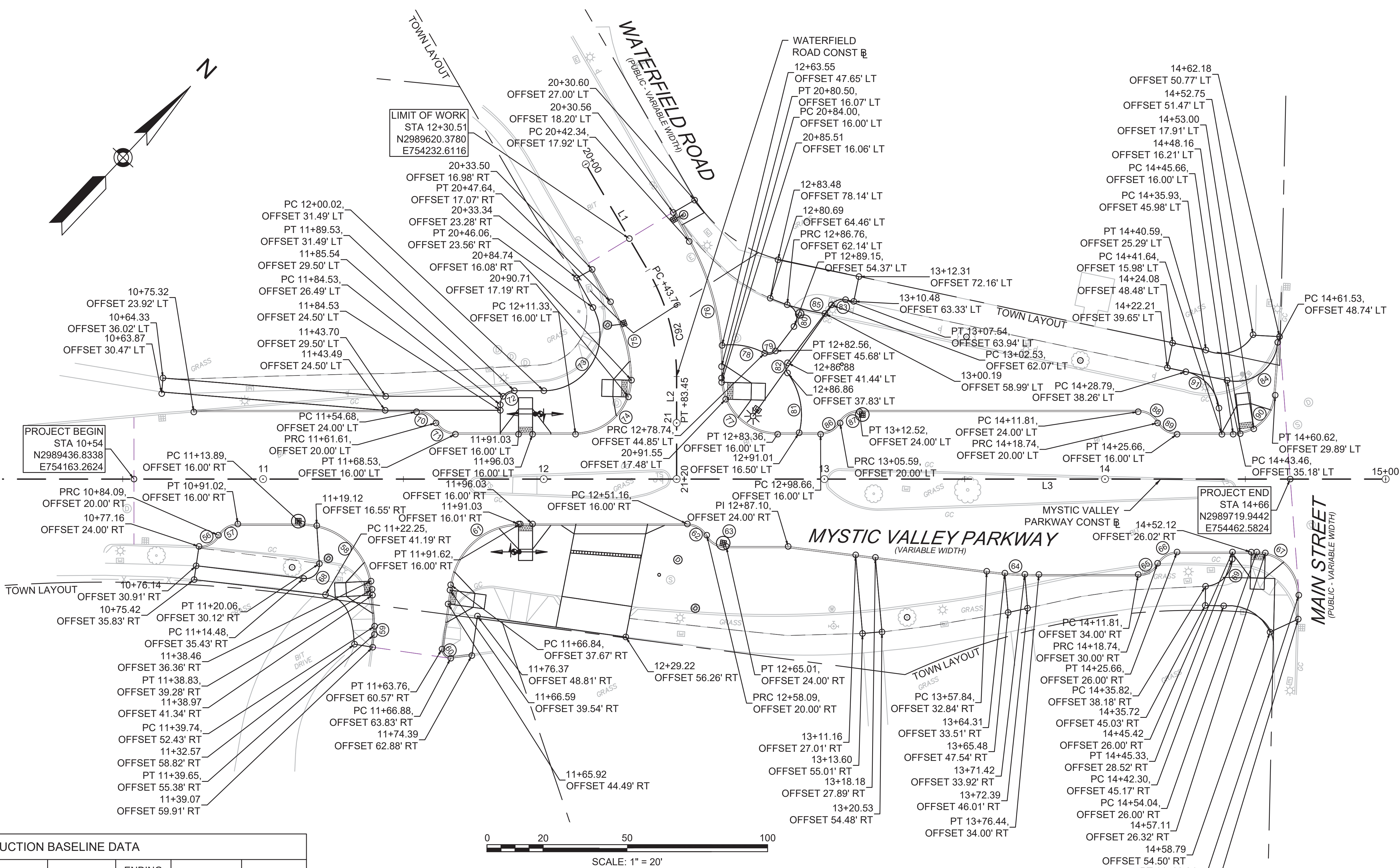
MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MAIN STREET AT WASHINGTON STREET
CURB TIE PLAN

FINAL DESIGN

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	CT.02
SHEET NO.	12 OF 39

CURVE TABLE				
CURVE #	LENGTH	DIRECTION/DELTA	RADIUS	TANGENT
56	8.38	60°00'00"	8.00	4.62
57	8.38	60°00'00"	8.00	4.62
58	37.55	86°02'54"	25.00	23.33
59	2.96	11°18'47"	15.00	1.49
60	5.10	97°21'54"	3.00	3.41
61	35.93	82°20'27"	25.00	21.86
62	8.38	60°00'00"	8.00	4.62
63	8.38	60°00'00"	8.00	4.62
64	18.65	7°07'28"	150.00	9.34
65	8.38	60°00'00"	8.00	4.62
66	8.38	60°00'00"	8.00	4.62
67	23.92	91°21'52"	15.00	15.36
68	8.79	100°43'59"	5.00	6.04
69	14.90	85°20'52"	10.00	9.22
70	8.38	60°00'00"	8.00	4.62
71	8.38	60°00'00"	8.00	4.62
72	7.85	90°00'00"	5.00	5.00
73	41.49	118°51'37"	20.00	33.86
74	32.18	92°21'03"	20.00	20.78
75	27.72	27°23'02"	58.00	14.13
76	46.51	28°58'04"	92.00	23.77
77	31.42	90°00'00"	20.00	20.00
78	15.71	35°59'43"	25.00	8.12
79	4.25	81°15'02"	3.00	2.57
80	9.49	108°42'50"	5.00	6.97
81	22.48	51°31'19"	25.00	12.06
82	3.87	73°57'04"	3.00	2.26
83	5.65	64°46'20"	5.00	3.17
84	25.57	97°41'15"	15.00	17.16
85	20.31	15°31'04"	75.00	10.22
86	8.38	60°00'00"	8.00	4.62
87	8.38	60°00'00"	8.00	4.62
88	8.38	60°00'00"	8.00	4.62
89	8.38	60°00'00"	8.00	4.62
90	22.45	85°44'32"	15.00	13.92
91	18.75	71°36'16"	15.00	10.82



WATERFIELD ROAD CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	20+00.00	2989628.982	754203.147		S73°43'20"E 43.76'	20+43.76	2989616.715	754245.157
C92	20+43.76	2989616.715	754245.157	R=75.00' Δ=30°18'59" L=39.68' T=20.32'		20+83.45	2989596.258	754278.623
L2	20+83.45	2989596.258	754278.623		S43°24'21"E 36.55'	21+20.00	2989569.703	754303.740

MYSTIC VALLEY PARKWAY CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L3	10+00.00	2989399.727	754124.031		N46°35'39"E 500.00'	15+00.00	2989743.308	754487.284

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.

REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK				
DR	RPI				
CHK	KMF				
APVD	ELG	NO.	DATE	REVISION	BY APVD

TOOLE DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

FINAL DESIGN

PROJECT NO. 60139

DATE 3/18/2020

DRAWING NO. CT.03

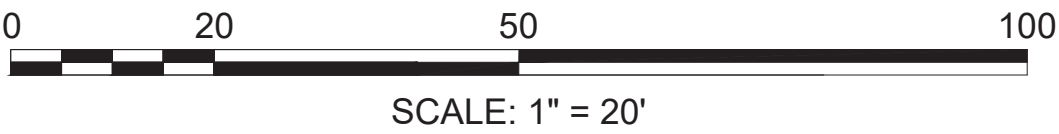
SHEET NO. 13 OF 39

MYSTIC VALLEY PARKWAY
CURB TIE PLAN



LEGEND:

- (XX.XX) EXISTING ELEVATION/MATCH EXISTING ELEVATION
- XX.XX PROPOSED ELEVATION
- BC BOTTOM OF CURB
- TC TOP OF CURB
- WCR WHEELCHAIR RAMP
- * ±0.5% TOLERANCE FOR CONSTRUCTION



FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK					
DR	RPI					
CHK	KMF					
APVD	ELG	NO.	DATE	REVISION	BY	APVD

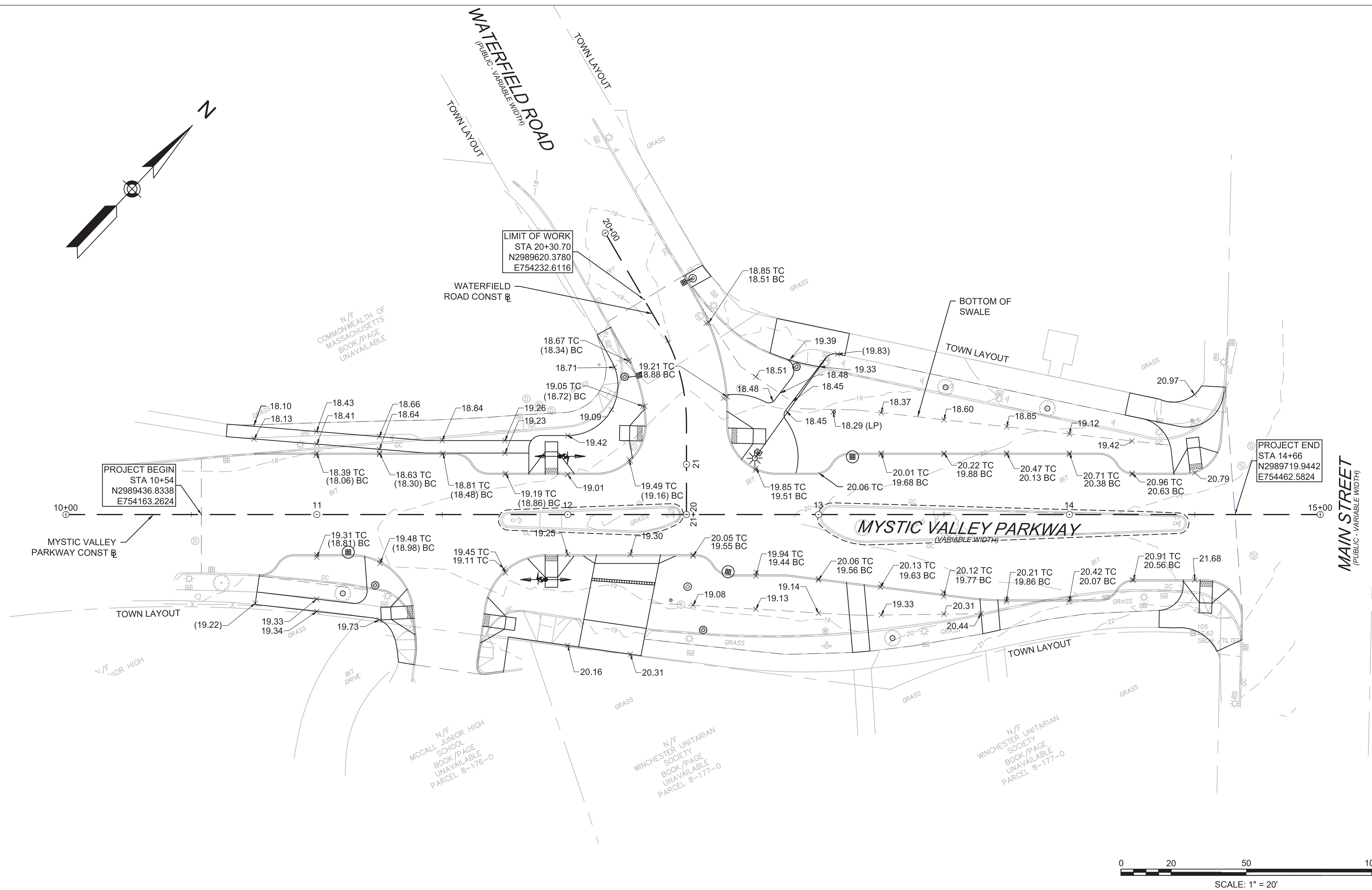
TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MAIN STREET AT WASHINGTON STREET
GRADING PLAN

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	G.01
SHEET NO.	14 OF 39



FINAL DESIGN

PROFESSIONAL CERTIFICATION



REUSE OF DOCUMENTS

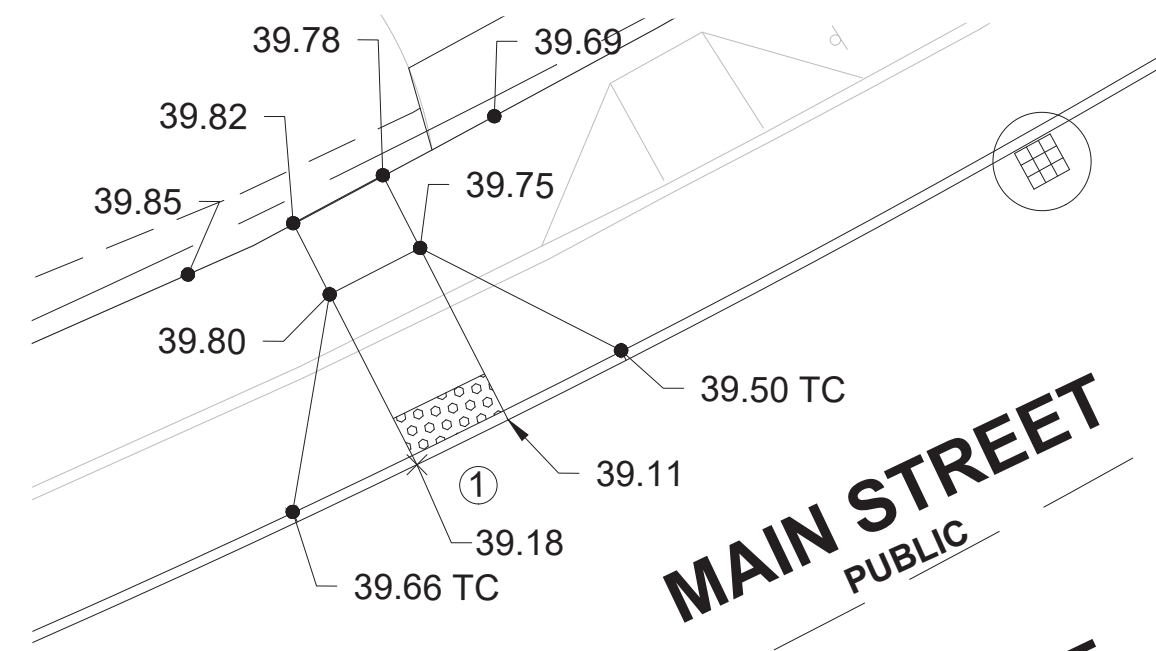
[illegible]

TOOLE
DESIGN

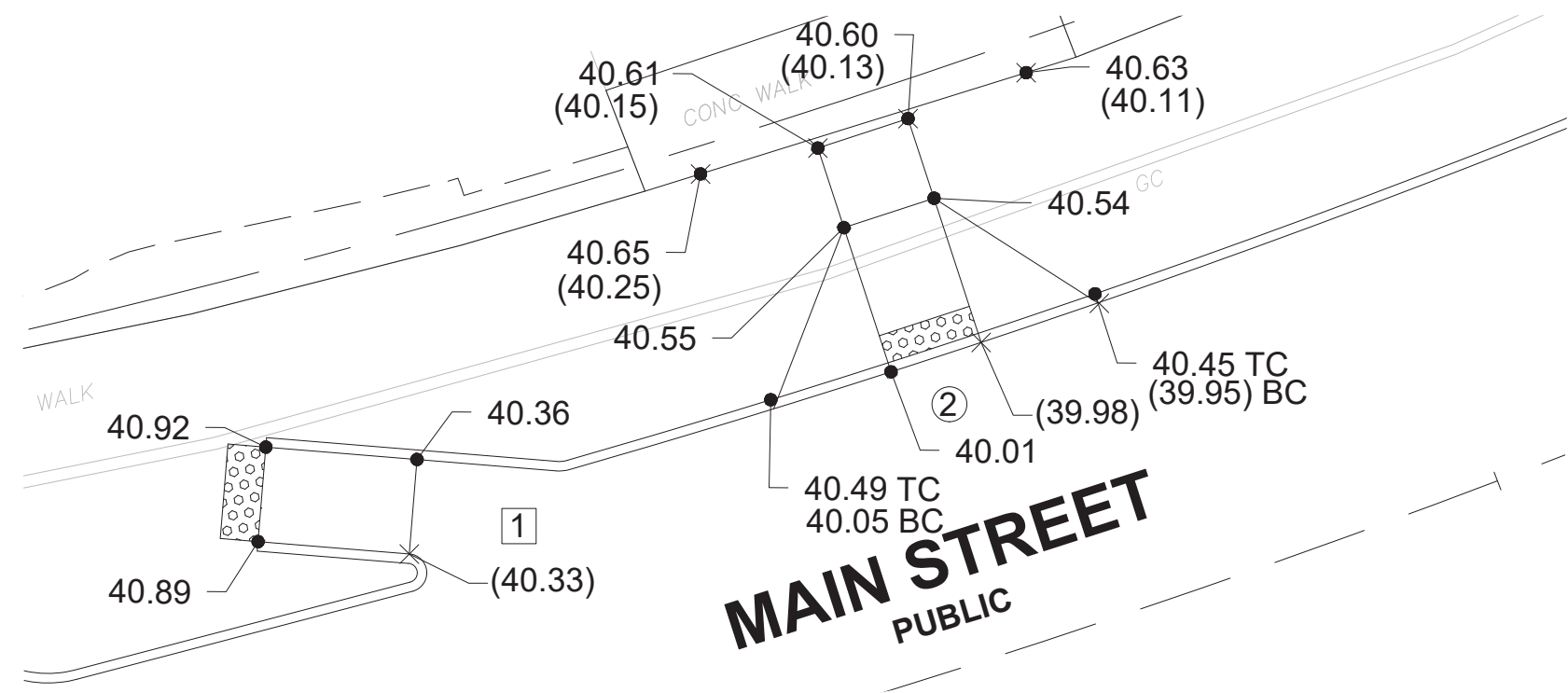
2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

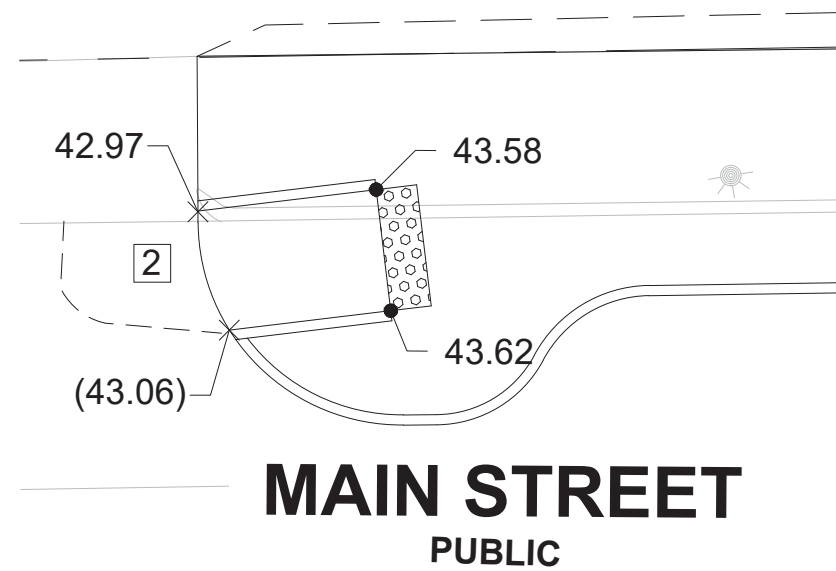
MYSTIC VALLEY PARKWAY GRADING PLAN



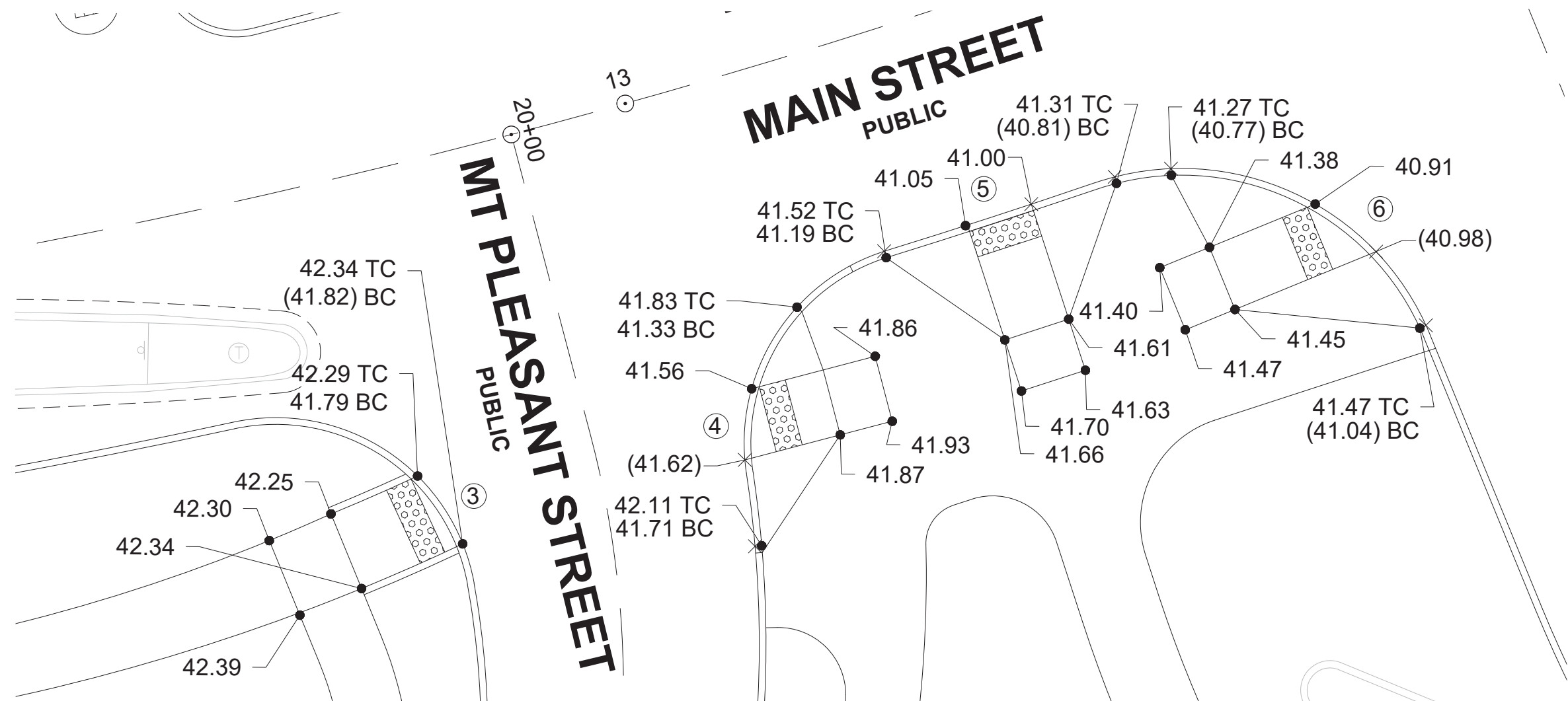
WCR-1



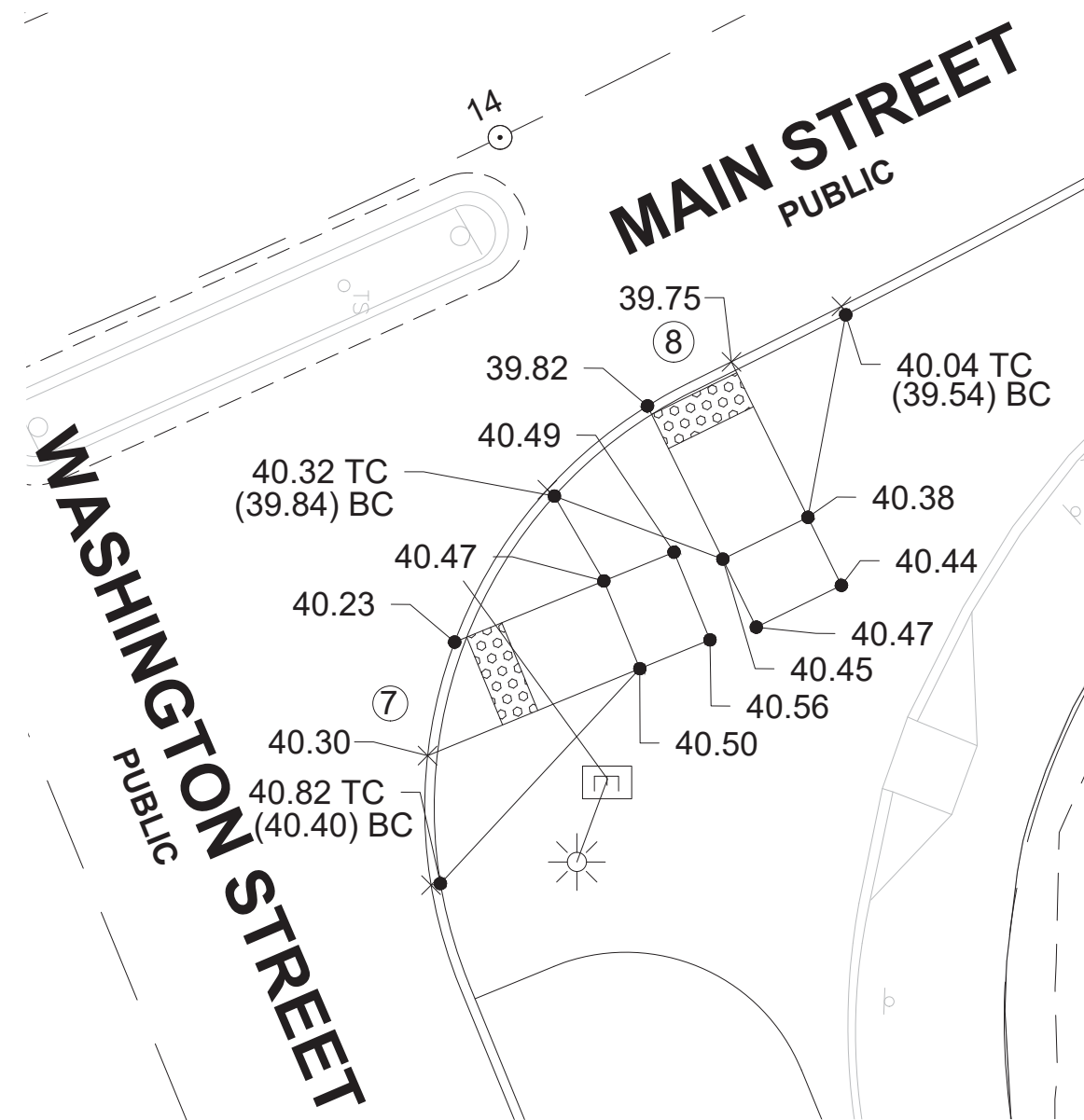
WCR-2 & BIKE RAMP-1



BIKE RAMP-2



WCR-3 & WCR-4 & WCR-5 & WCR-6



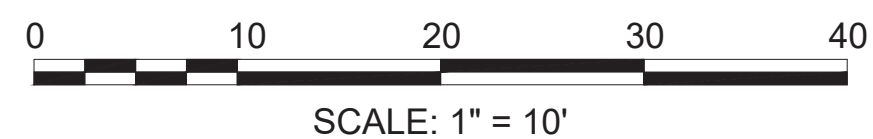
WCR-7 & WCR-8

NOTES:

1. MAXIMUM CURB REVEAL TO BE 7".
2. IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER SURFACE STRUCTURES THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING CURB RAMP, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE/COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.
3. THE ROADWAY CROSS SLOPE SHALL NOT EXCEED 1.5%*, INCLUDING, BUT NOT LIMITED TO , TRANSITION RAMP CROSS SLOPE, LEVEL LANDING AND THE PROPOSED RAMP OPENING.
4. A CURB RAMP RUNNING SLOPE SHALL NOT EXCEED 7.5%*.
5. PROPOSED ELEVATION AT GUTTER LINE INDICATES CHANGE OF ELEVATION FROM EXISTING ROADWAY IN ORDER TO MAINTAIN POSITIVE DRAINAGE. ADJACENT SAWCUT LINE TO MATCH EXISTING ELEVATION.
6. SEE SHEET 38 FOR CURB RAMP DIMENSIONS AND STATION/OFFSET REFERENCES.

LEGEND:

- (XX.XX) EXISTING ELEVATION
XX.XX PROPOSED ELEVATION
BC BOTTOM OF CURB
TC TOP OF CURB
* ±0.5% TOLERANCE FOR CONSTRUCTION
WHEELCHAIR RAMP IDENTIFIER
BIKE RAMP IDENTIFIER



FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK					
DR	RPI					
CHK	KMF					
APVD	ELG	NO.	DATE	REVISION	BY	APVD

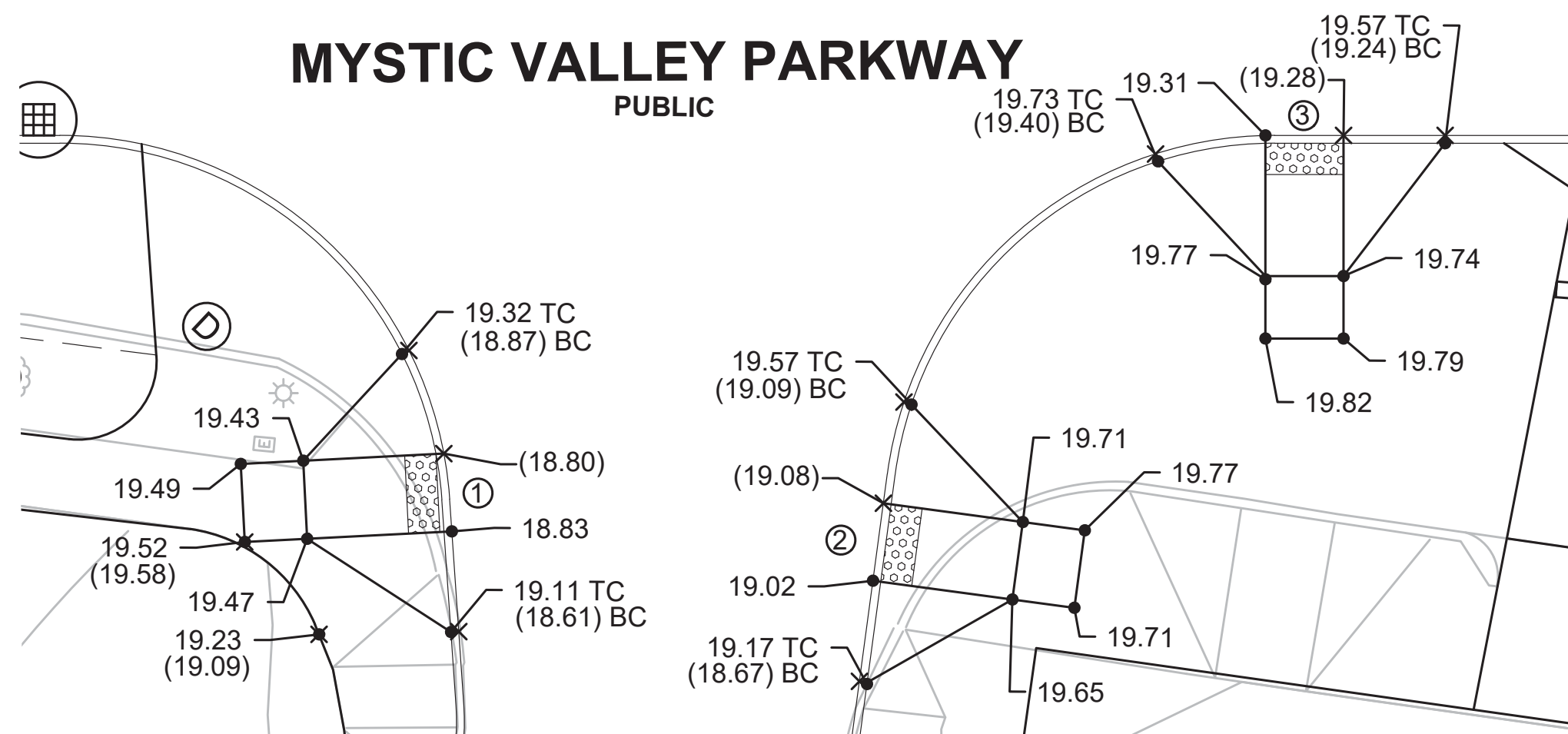
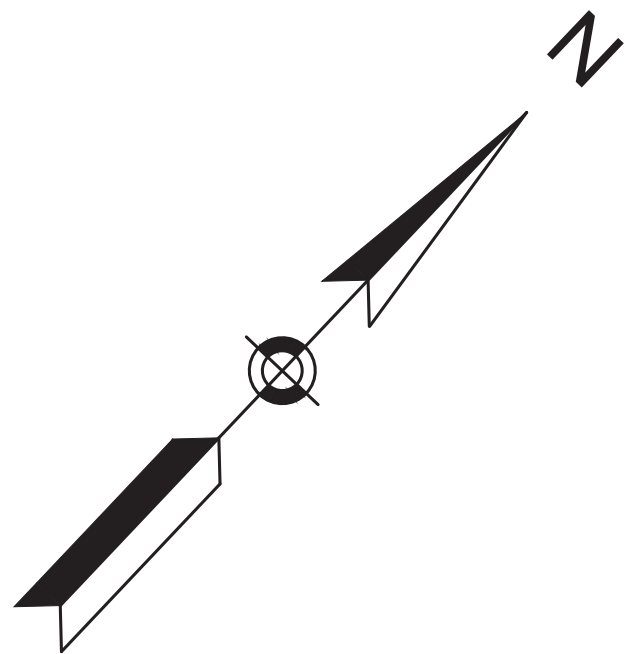
TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

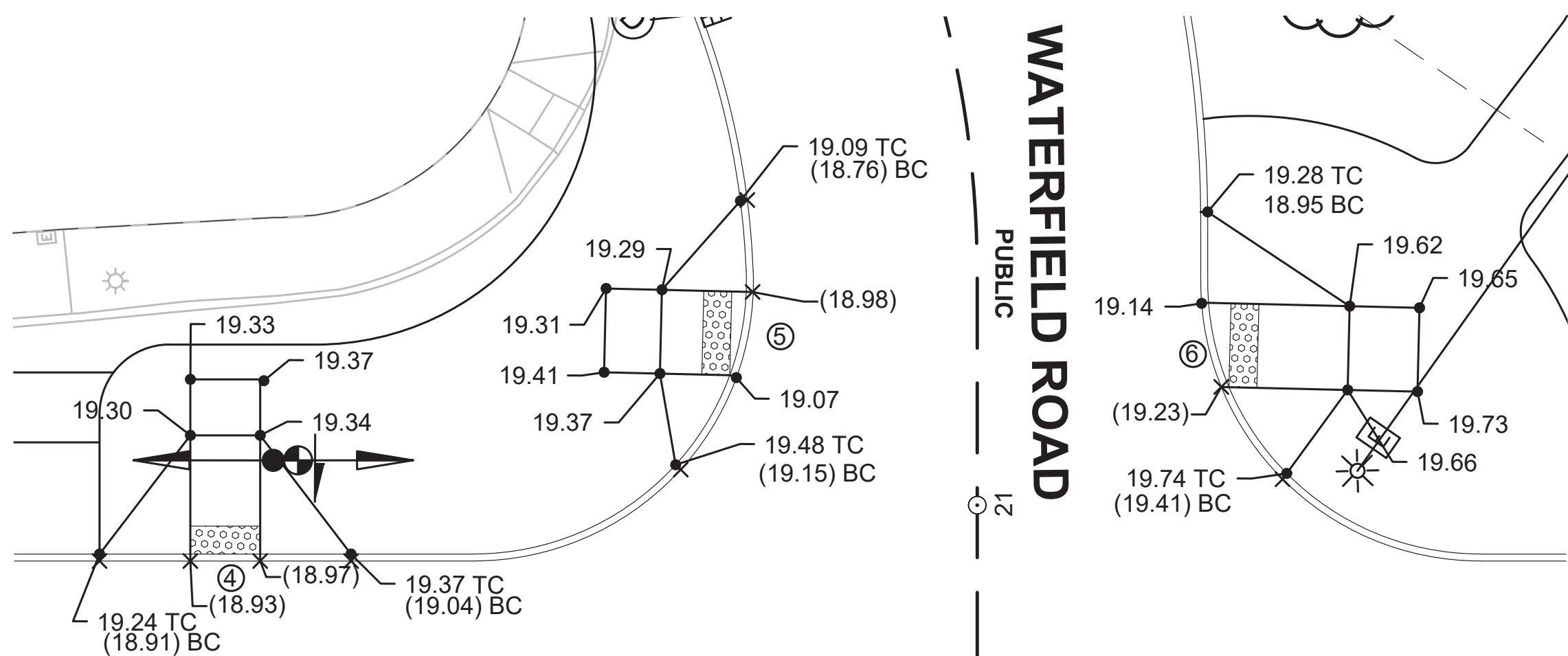
MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MAIN STREET AT WASHINGTON STREET
WHEELCHAIR RAMP GRADING PLAN

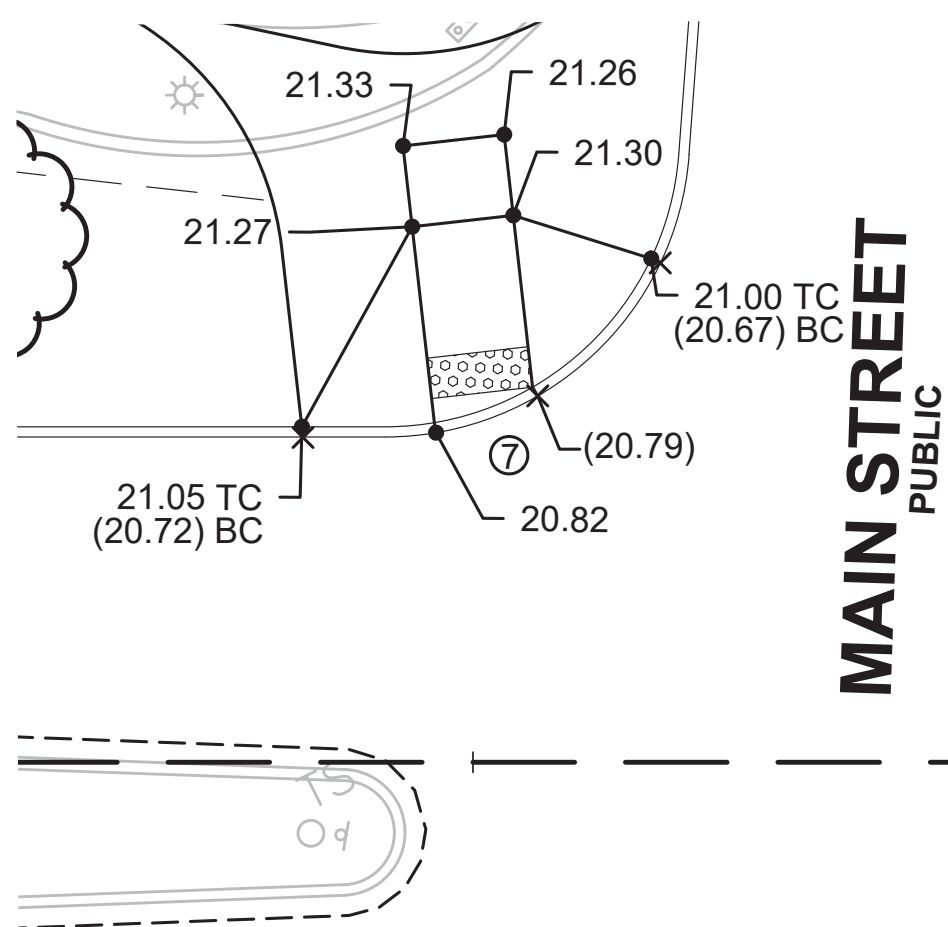
PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	WCR.01
SHEET NO.	16 OF 39



WCR-1 & WCR-2 & WCR-3



WCR-4 & WCR-5 & WCR-6



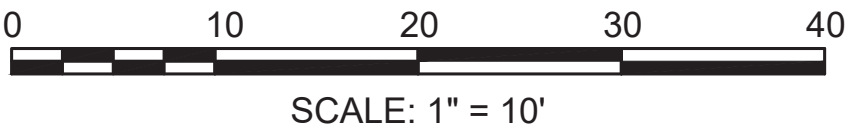
WCR-7 & WCR-8

NOTES:

1. MAXIMUM CURB REVEAL TO BE 7".
2. IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER SURFACE STRUCTURES THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING CURB RAMP, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE/COVER SHALL BE FLUSH WITH THE CURB RAMP SURFACE.
3. THE ROADWAY CROSS SLOPE SHALL NOT EXCEED 1.5%*, INCLUDING, BUT NOT LIMITED TO , TRANSITION RAMP CROSS SLOPE, LEVEL LANDING AND THE PROPOSED RAMP OPENING.
4. A CURB RAMP RUNNING SLOPE SHALL NOT EXCEED 7.5%*.
5. PROPOSED ELEVATION AT GUTTER LINE INDICATES CHANGE OF ELEVATION FROM EXISTING ROADWAY IN ORDER TO MAINTAIN POSITIVE DRAINAGE. ADJACENT SAWCUT LINE TO MATCH EXISTING ELEVATION.
6. SEE SHEET 38 FOR CURB RAMP DIMENSIONS AND STATION/OFFSET REFERENCES.

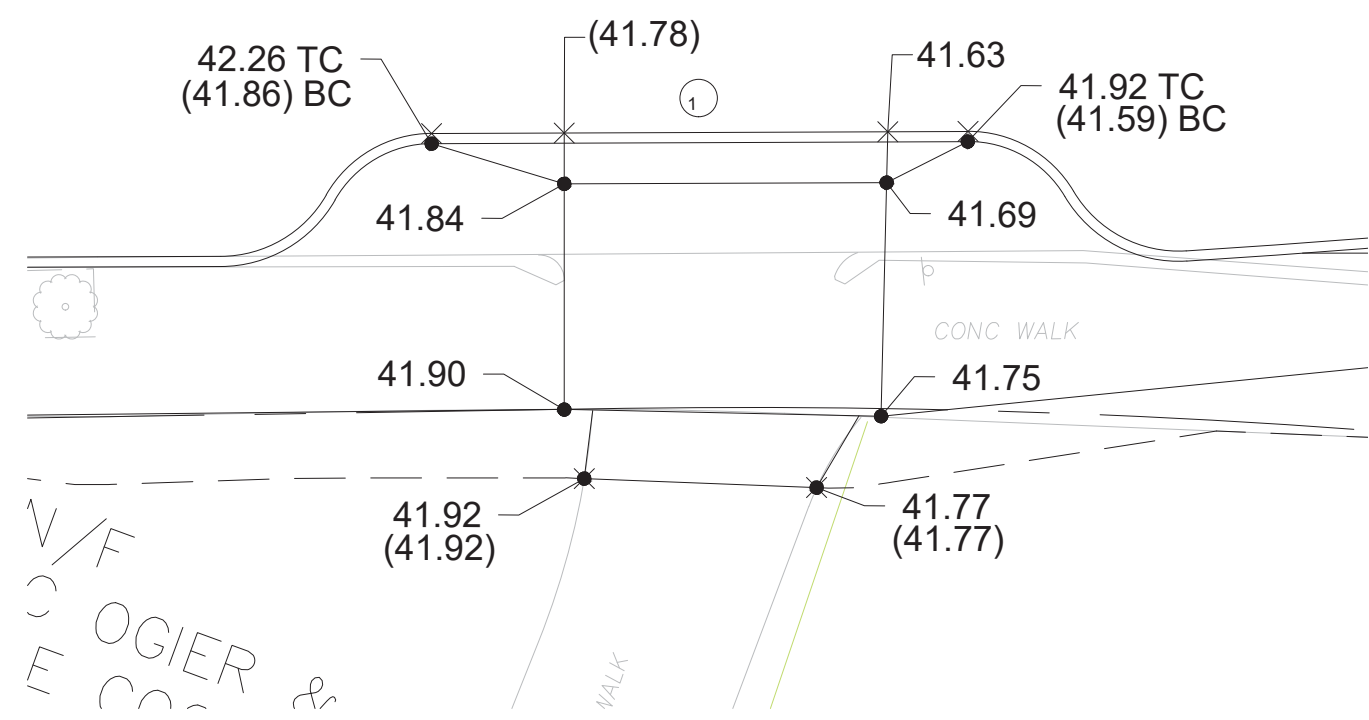
LEGEND:

- (XX.XX) EXISTING ELEVATION
XX.XX PROPOSED ELEVATION
BC BOTTOM OF CURB
TC TOP OF CURB
* ±0.5% TOLERANCE FOR CONSTRUCTION
Ⓢ WHEELCHAIR RAMP IDENTIFIER

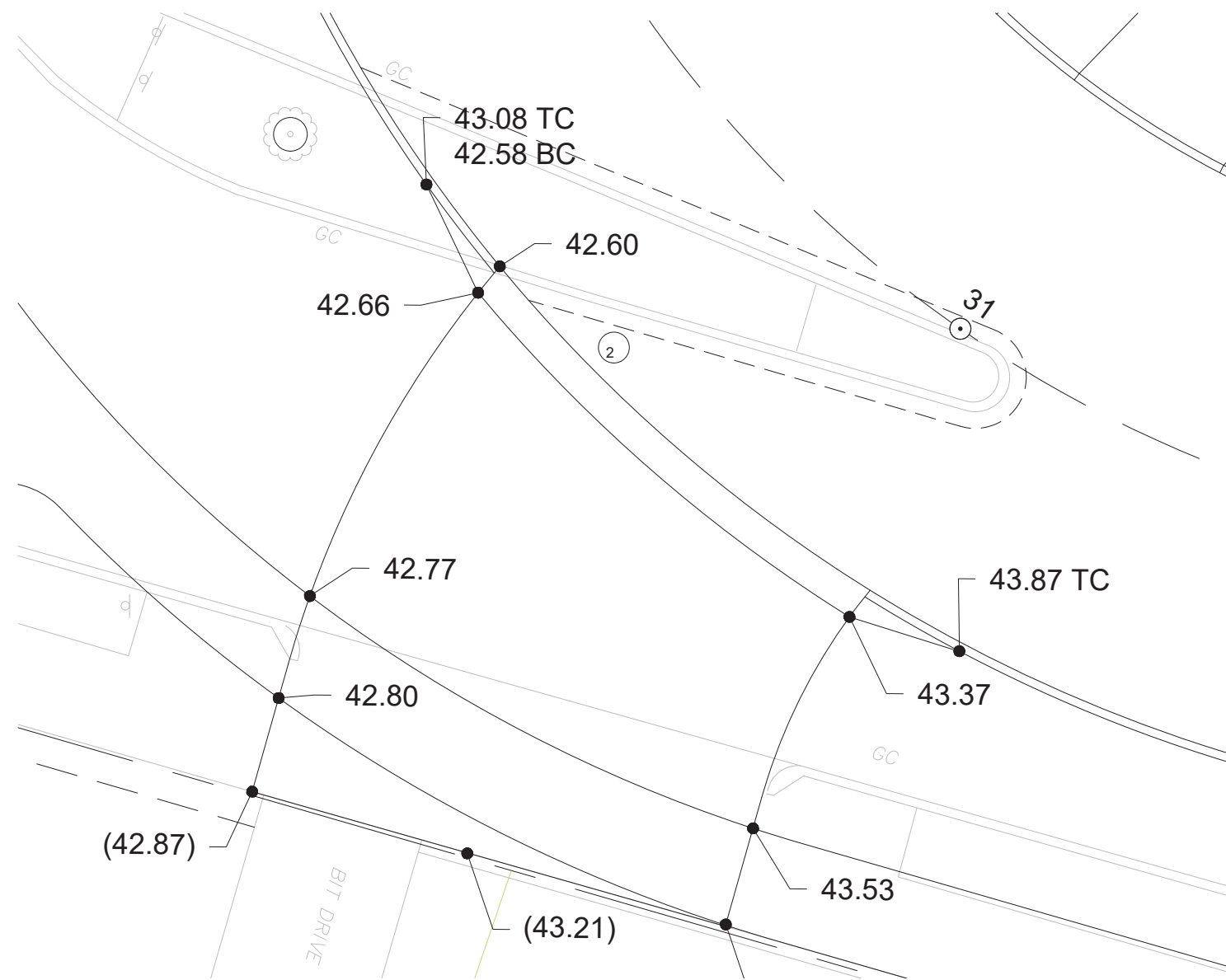


FINAL DESIGN

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE:6/30/2020.		REUSE OF DOCUMENTS ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.						 2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com		MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT		PROJECT NO. 60139
		DSGN	CBK									DATE 3/18/2020
		DR	RPI									DRAWING NO. WCR.02
		CHK	KMF									SHEET NO. 17 OF 39
		APVD	ELG	NO.	DATE	REVISION		BY	APVD			



DW-1



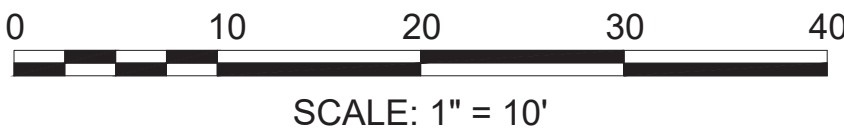
DW-2

NOTES:

1. MAXIMUM CURB REVEAL TO BE 7".
2. IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER SURFACE STRUCTURES THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING DRIVEWAY, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE/COVER SHALL BE FLUSH WITH THE DRIVEWAY SURFACE.
3. A DRIVEWAY RUNNING SLOPE SHALL NOT EXCEED 15%*.
4. PROPOSED ELEVATION AT GUTTER LINE INDICATES CHANGE OF ELEVATION FROM EXISTING ROADWAY IN ORDER TO MAINTAIN POSITIVE DRAINAGE. ADJACENT SAWCUT LINE TO MATCH EXISTING ELEVATION.
5. SEE SHEET 39 FOR DRIVEWAY DIMENSIONS AND STATION/OFFSET REFERENCES.

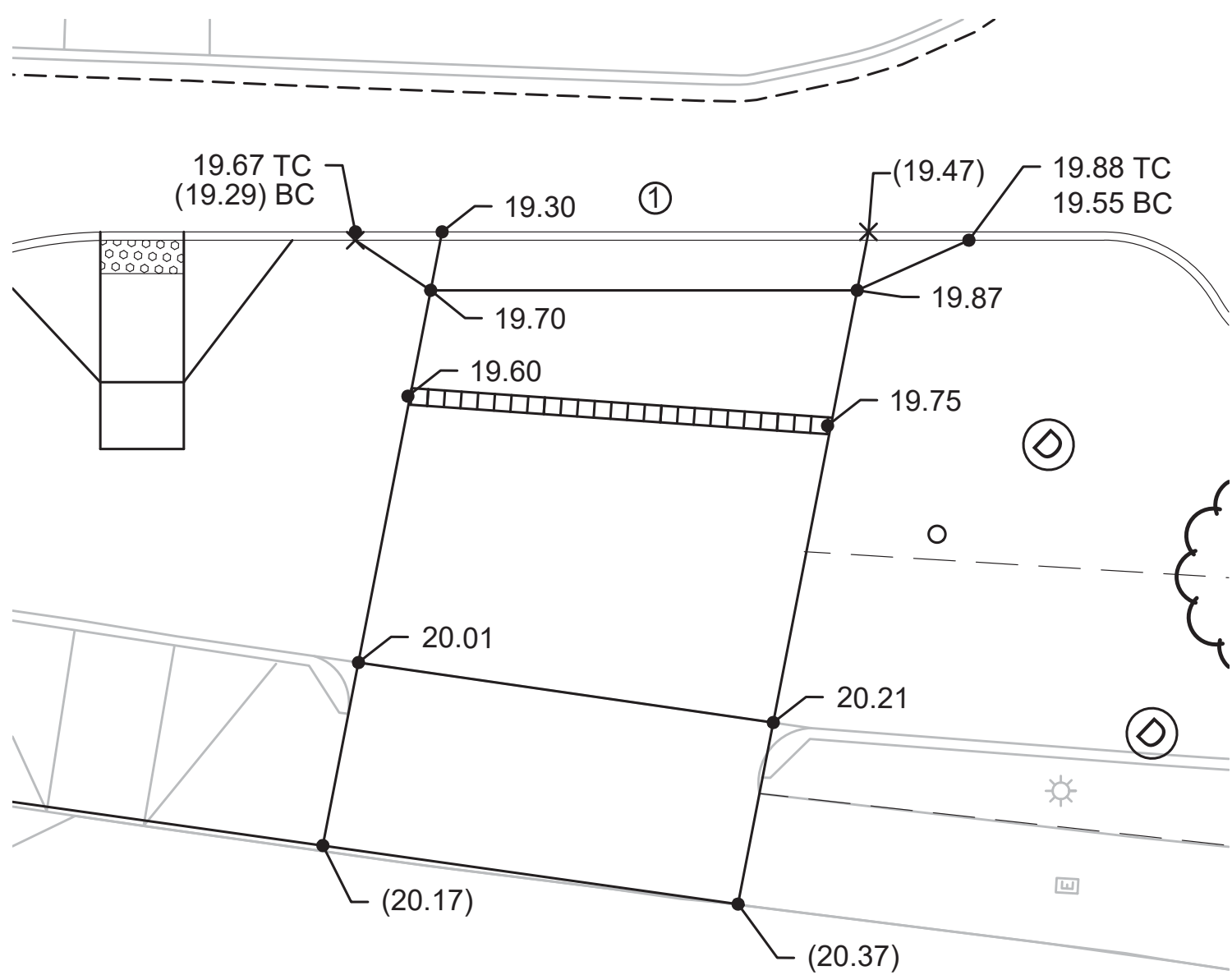
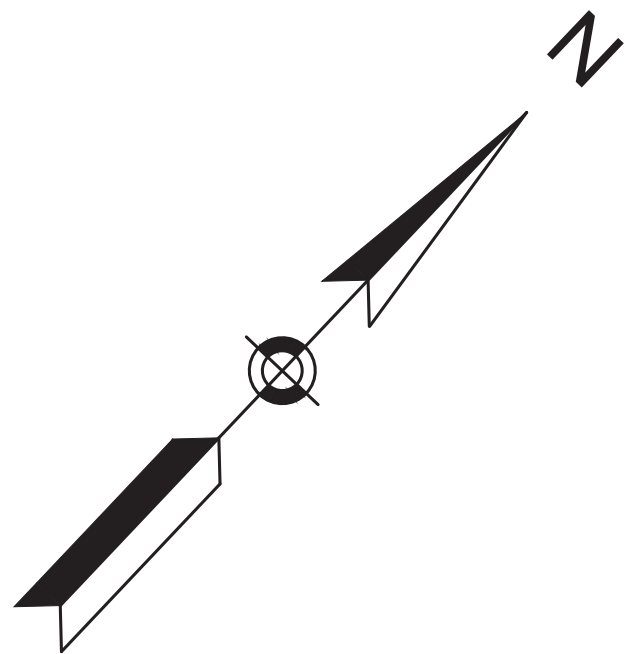
LEGEND:

- (XX.XX) EXISTING ELEVATION
XX.XX PROPOSED ELEVATION
BC BOTTOM OF CURB
TC TOP OF CURB
* ±0.5% TOLERANCE FOR CONSTRUCTION
DRIVEWAY IDENTIFIER



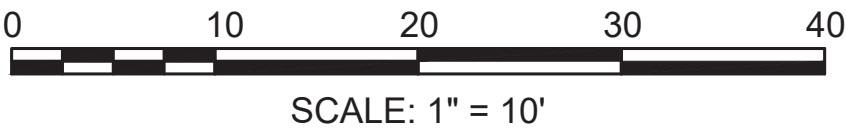
FINAL DESIGN

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.		REUSE OF DOCUMENTS ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.								 2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com				MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT				MAIN STREET AT WASHINGTON STREET DRIVEWAY GRADING PLAN				PROJECT NO.		60139	
		DSGN		CBK																		DATE		3/18/2020	
		DR		RPI																		DRAWING NO.		DW.01	
		CHK		KMF																		SHEET NO.		18 OF 39	
		APVD		ELG		NO.		DATE														REVISION		BY	



DW-1

- NOTES:**
1. MAXIMUM CURB REVEAL TO BE 7".
 2. IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER SURFACE STRUCTURES THAT CANNOT BE REMOVED OR RESET IS WITHIN THE PROPOSED OR EXISTING DRIVEWAY, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACE/COVER SHALL BE FLUSH WITH THE DRIVEWAY SURFACE.
 3. A DRIVEWAY RUNNING SLOPE SHALL NOT EXCEED 15%*.
 4. PROPOSED ELEVATION AT GUTTER LINE INDICATES CHANGE OF ELEVATION FROM EXISTING ROADWAY IN ORDER TO MAINTAIN POSITIVE DRAINAGE. ADJACENT SAWCUT LINE TO MATCH EXISTING ELEVATION.
 5. SEE SHEET 39 FOR DRIVEWAY DIMENSIONS AND STATION/OFFSET REFERENCES.
- LEGEND:**
- (XX.XX) EXISTING ELEVATION
XX.XX PROPOSED ELEVATION
BC BOTTOM OF CURB
TC TOP OF CURB
* ±0.5% TOLERANCE FOR CONSTRUCTION
Ⓢ DRIVEWAY IDENTIFIER



FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS							
ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.							
DSGN	CBK						
DR	RPI						
CHK	KMF						
APVD	ELG						
		NO.			DATE	REVISION	

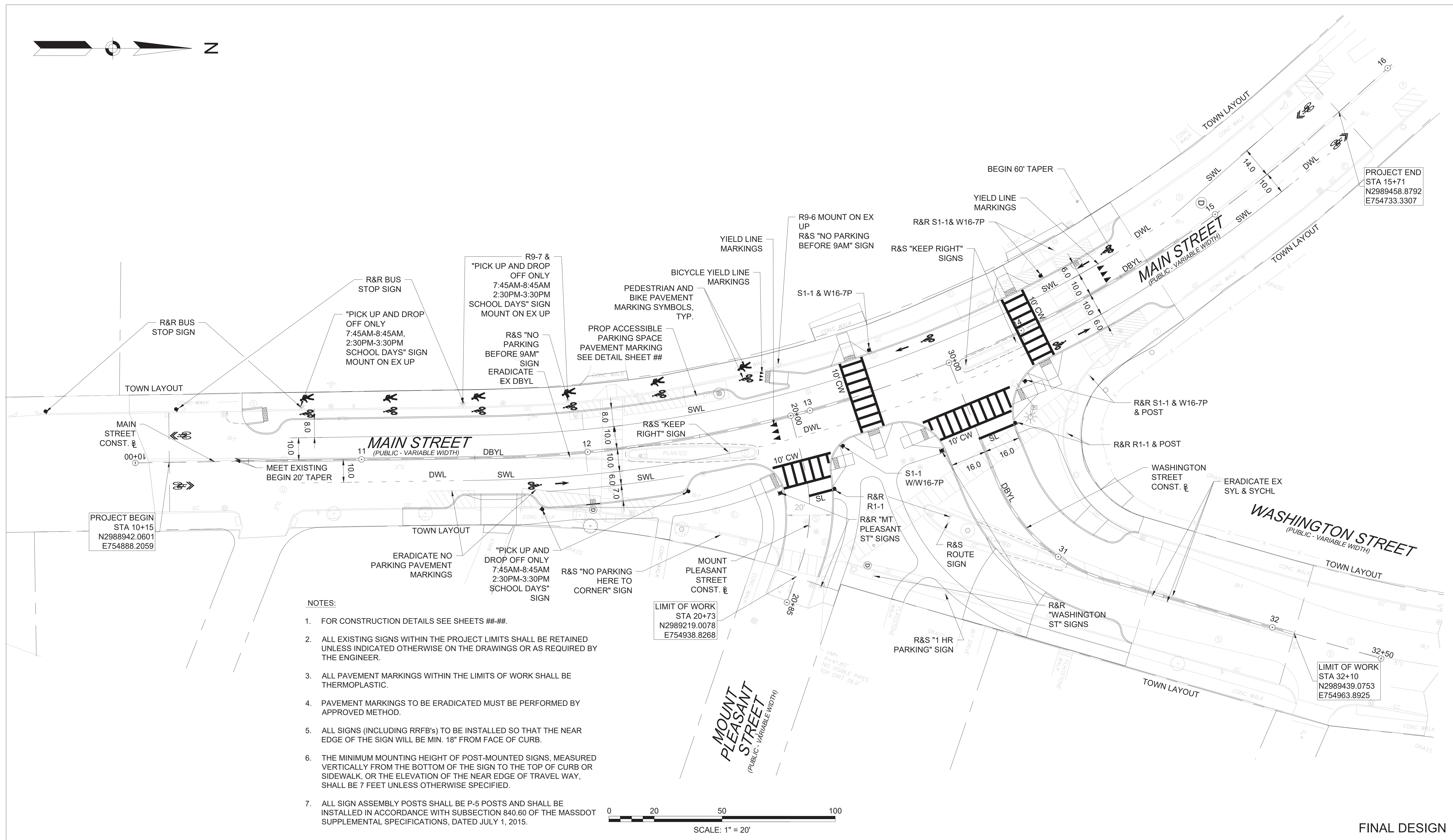
**TOOLE
DESIGN**

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MYSTIC VALLEY PARKWAY
DRIVEWAY GRADING PLAN

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	DW.02
SHEET NO.	19 OF 39



I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE COMMONWEALTH OF
MASSACHUSETTS,
LICENSE NO. 49208,
EXPIRATION DATE: 6/30/2020.



ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT.
REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK	NO.	DATE	REVISION	BY	APVD
DR	RPI					
CHK	KMF					
APVD	ELG					

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

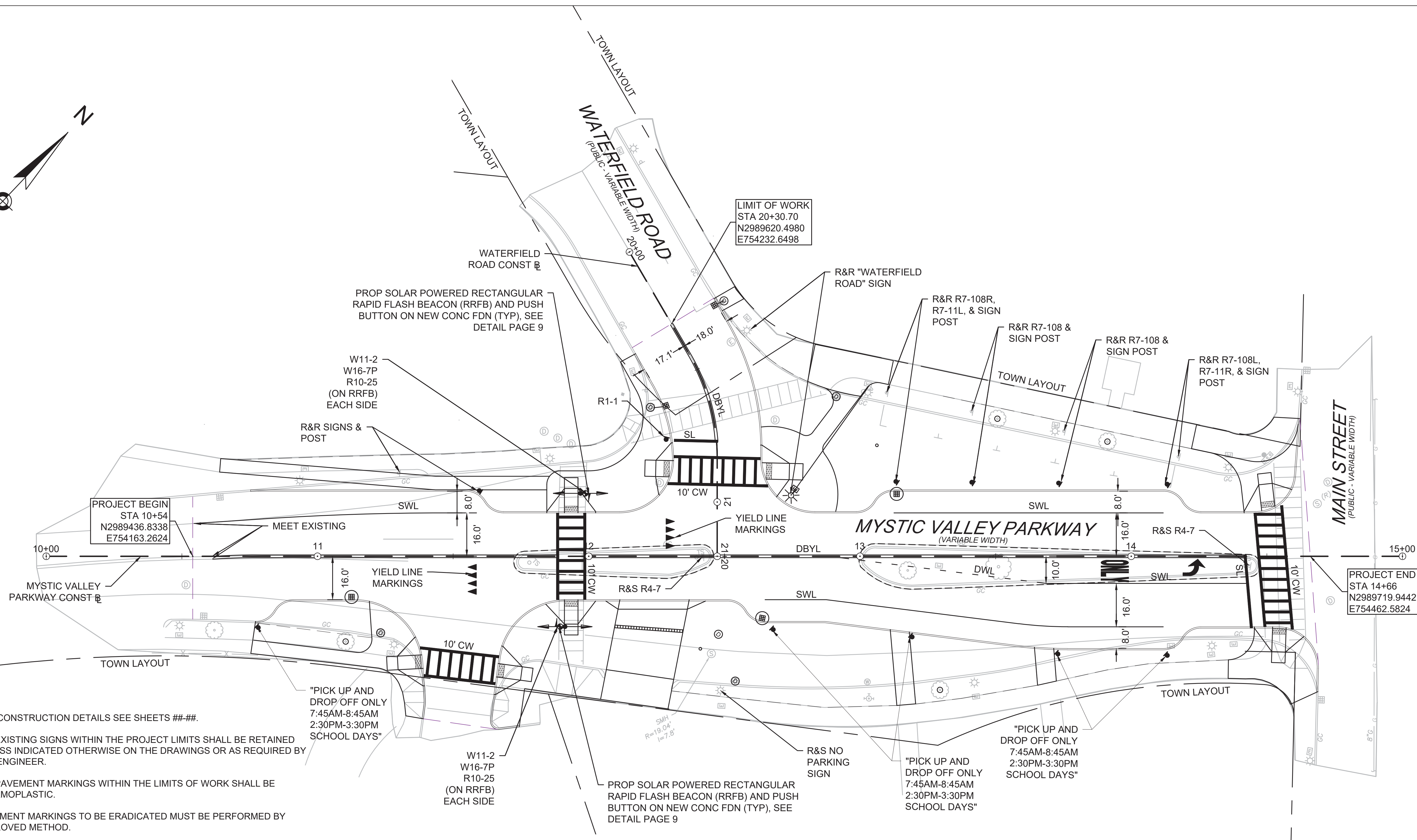
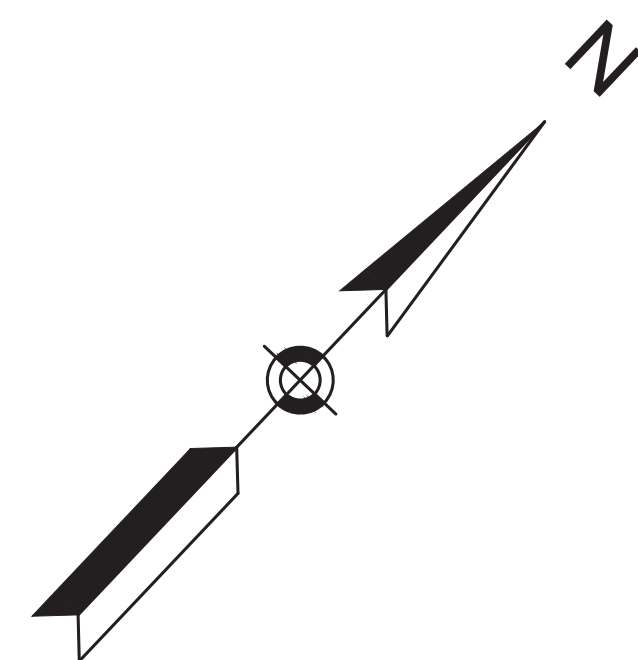
MAIN STREET AT WASHINGTON STREET PAVEMENT MARKING AND SIGNAGE PLAN

PROJECT NO.	60139
-------------	-------

DATE	3/18/2020
------	-----------

DRAWING NO. PM.01

SHEET NO. 20 OF 39

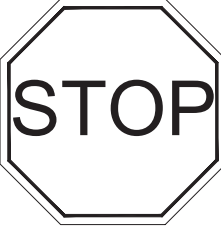



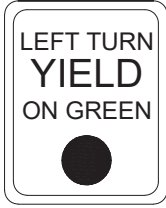






NOTES:

- FOR CONSTRUCTION DETAILS SEE SHEETS ###-##.
- ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS OR AS REQUIRED BY THE ENGINEER.
- ALL PAVEMENT MARKINGS WITHIN THE LIMITS OF WORK SHALL BE THERMOPLASTIC.
- PAVEMENT MARKINGS TO BE ERADICATED MUST BE PERFORMED BY APPROVED METHOD.
- ALL SIGNS (INCLUDING RRFB's) TO BE INSTALLED SO THAT THE NEAR EDGE OF THE SIGN WILL BE MIN. 18" FROM FACE OF CURB.
- THE MINIMUM MOUNTING HEIGHT OF POST-MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF CURB OR SIDEWALK, OR THE ELEVATION OF THE NEAR EDGE OF TRAVEL WAY, SHALL BE 7 FEET UNLESS OTHERWISE SPECIFIED.
- ALL SIGN ASSEMBLY POSTS SHALL BE P-5 POSTS AND SHALL BE INSTALLED IN ACCORDANCE WITH SUBSECTION 840.60 OF THE MASSDOT SUPPLEMENTAL SPECIFICATIONS, DATED JULY 1, 2015.

FINAL DESIGN



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.		REUSE OF DOCUMENTS ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.						TOOLE DESIGN 2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com		MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT		MYSTIC VALLEY PARKWAY PAVEMENT MARKING AND SIGNAGE PLAN		PROJECT NO. 60139
		DSGN	CBK											DATE 3/18/2020
		DR	RPI											DRAWING NO. PM.02
		CHK	KMF											SHEET NO. 21 OF 39
		APVD	ELG	NO.	DATE	REVISION			BY	APVD				

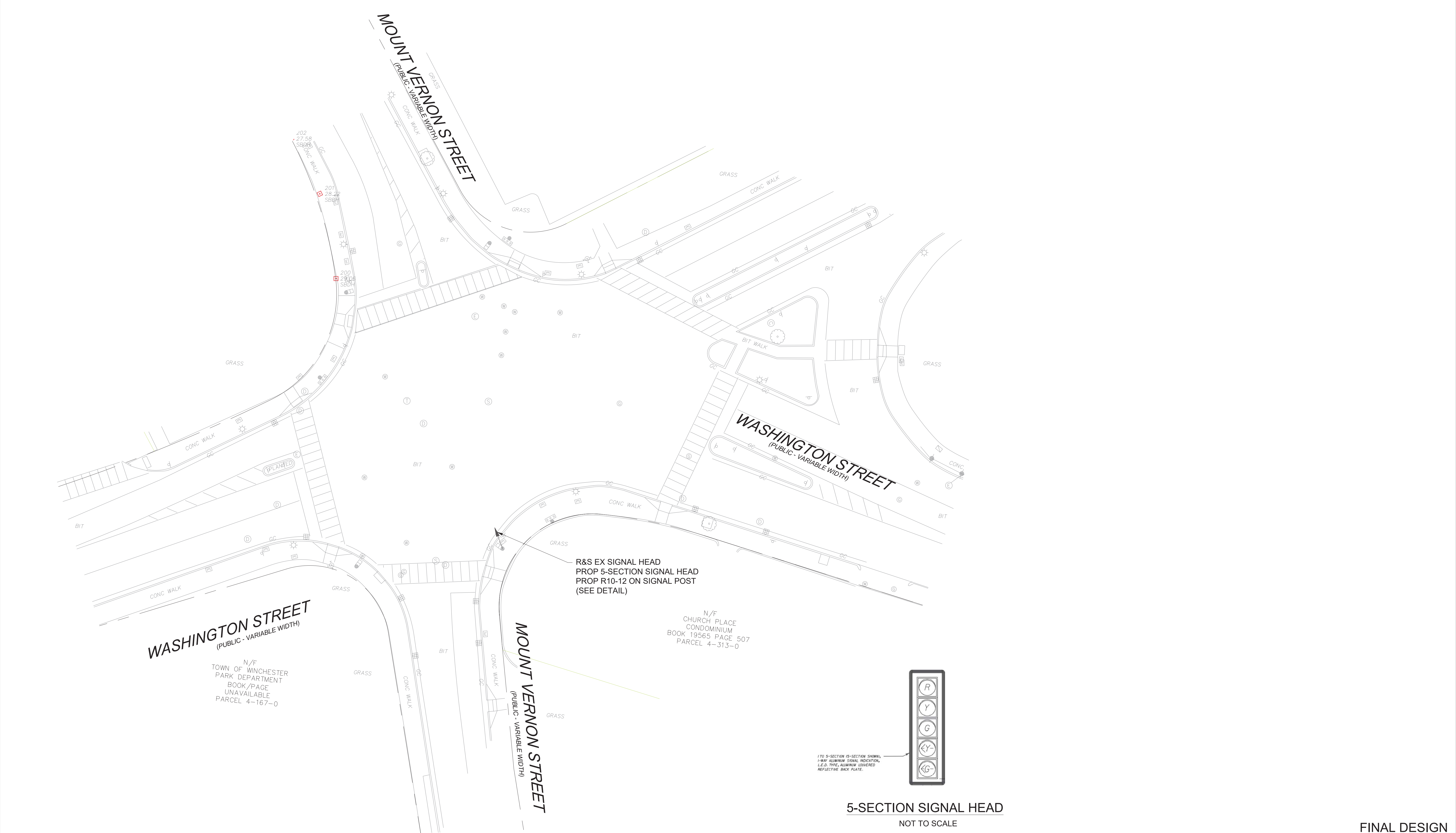
ID NUMBER	SIZE OF SIGN (in.)		LEGEND	TEXT DIMENSIONS (in.)			NUMBER OF SIGNS REQUIRED	COLOR*			POST SIZE AND NUMBER REQUIRED	UNIT AREA (SF)	TOTAL AREA (SF)
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACKGROUND	LEGEND	BORDER			
R1-1	30	30		SEE MUTCD STANDARD DETAIL			1	RED	WHITE	WHITE	P-5 REQ'D	6.25	6.25
R9-6	12	18					1	WHITE	BLACK	BLACK	MOUNT ON EX UP	1.50	1.50
R9-7	12	18					3	WHITE	BLACK	BLACK	MOUNT ON EX UP	1.50	4.50
R10-25	9	12					4	WHITE	BLACK	BLACK	MOUNT 4 ON RRFB	0.75	3.00
R10-12	24	30					1	WHITE	BLACK	BLACK	MOUNT ON SIGNAL POST	5.00	3.00
S1-1	36	36					2	FYG	BLACK	BLACK	P-5 2 REQ'D	9.00	18.00
W11-2	30	30					4	FYG	BLACK	BLACK	MOUNT 4 ON RRFB, MOUNT 2 W/ S1-1	6.25	25.00
W16-7PL	24	12					6	FYG	BLACK	BLACK	MOUNT 4 ON RRFB, MOUNT 2 W/ S1-1	2.00	12.00
CUSTOM	12	18					10	WHITE	RED	RED	P-5 10 REQ'D	1.50	15.00

SIGN SUMMARY NOTES:

1. FYG = FLUORESCENT YELLOW-GREEN
2. THE MINIMUM MOUNTING HEIGHT OF POST-MOUNTED SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF CURB OR SIDEWALK, OR THE ELEVATION OF THE NEAR EDGE OF TRAVEL WAY, SHALL BE 7 FEET UNLESS OTHERWISE SPECIFIED.
3. ALL SIGN ASSEMBLY POSTS SHALL BE P-5 POSTS AND SHALL BE INSTALLED IN ACCORDANCE WITH SUBSECTION 840.60 OF THE MASSDOT SUPPLEMENTAL SPECIFICATIONS, DATED APRIL 1, 2019.

FINAL DESIGN

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE:6/30/2020.		REUSE OF DOCUMENTS ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.						 <div>2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com</div>	MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT	PROJECT NO.	60139
		DSGN	CBK							DATE	3/18/2020
		DR	RPI							DRAWING NO.	SS.01
		CHK	KMF							SHEET NO.	22 OF 39
		APVD	ELG	NO.	DATE	REVISION	BY	APVD			



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE COMMONWEALTH OF
MASSACHUSETTS,
LICENSE NO. 49208,
EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT.
REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK					
DR	RPI					
CHK	KMF					
APVD	ELG	NO.	DATE	REVISION	BY	APVD

TOOLE
DESIGN

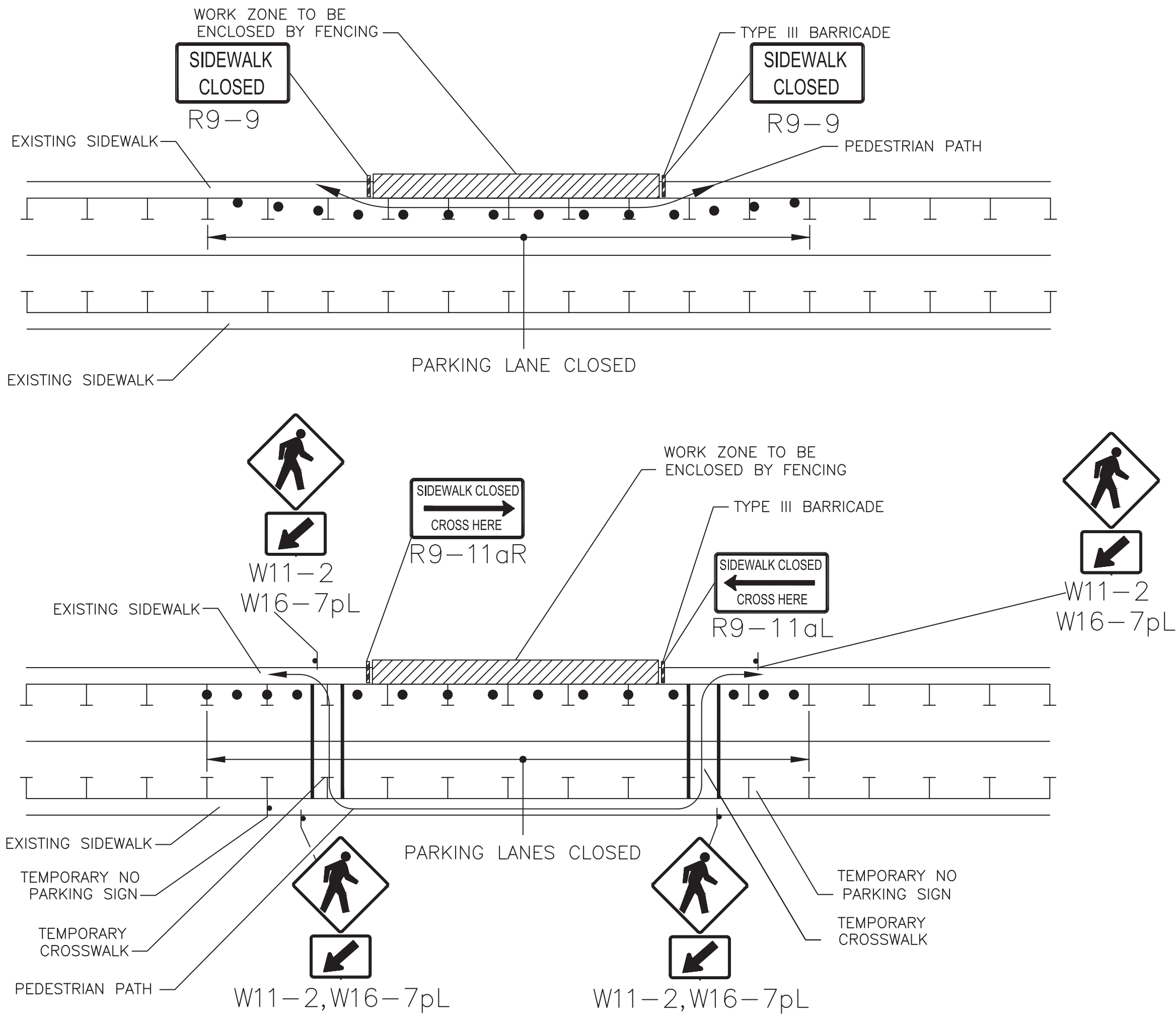
2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

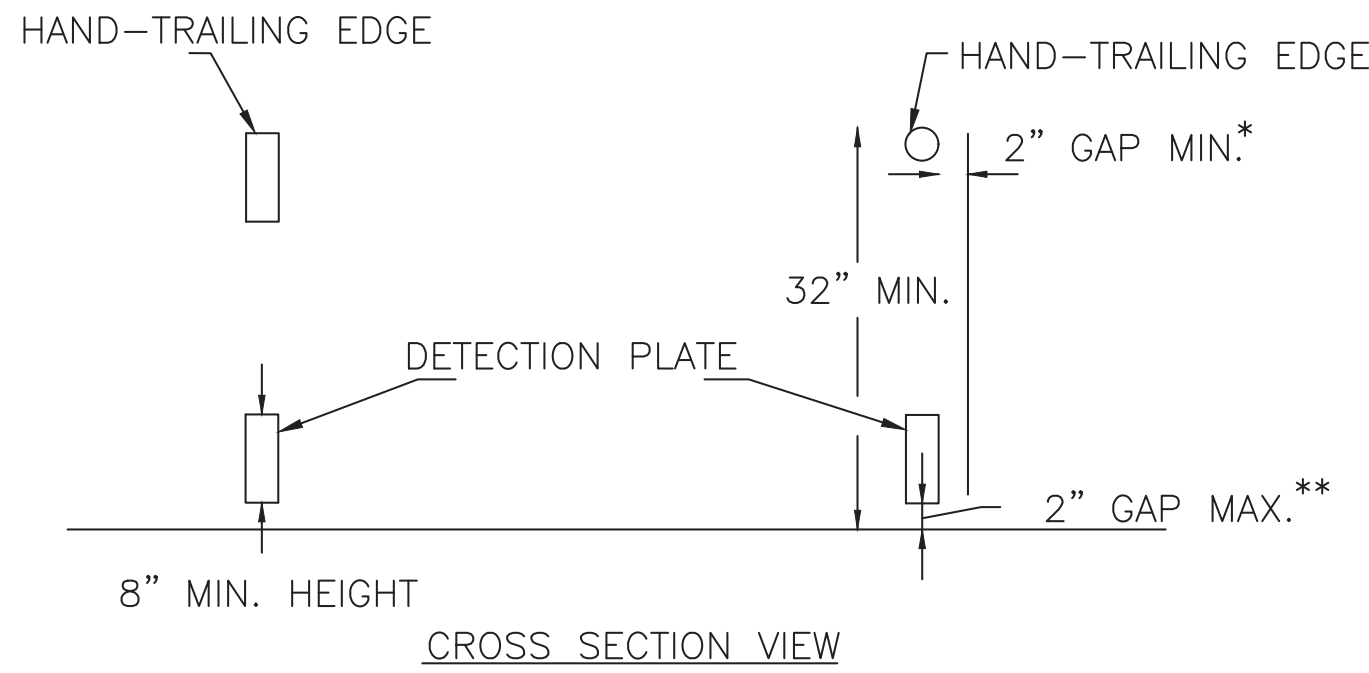
WASHINGTON STREET AT MOUNT
VERNON STREET
SIGNAL PLAN

FINAL DESIGN

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	SP.01
SHEET NO.	23 OF 39

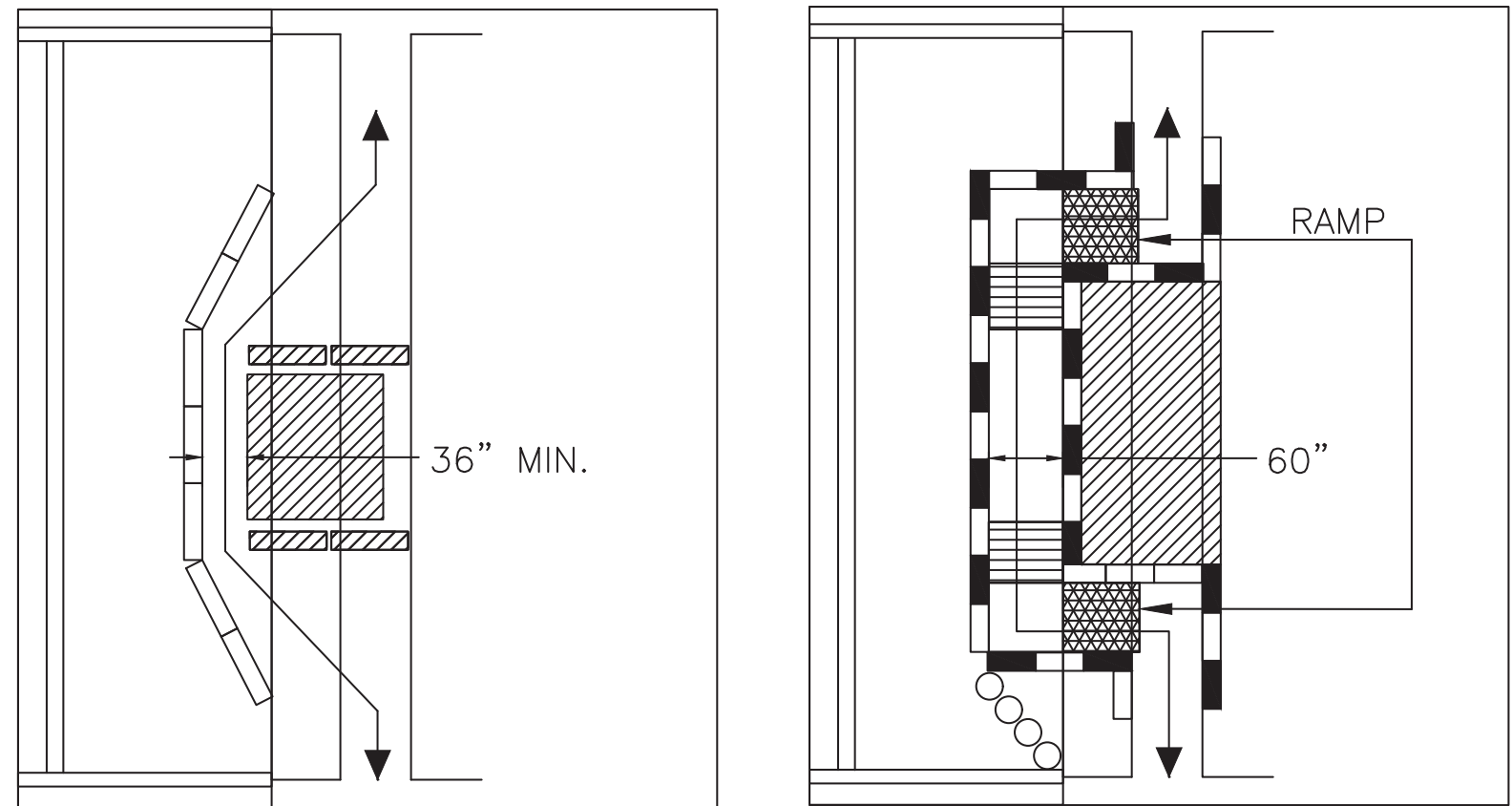
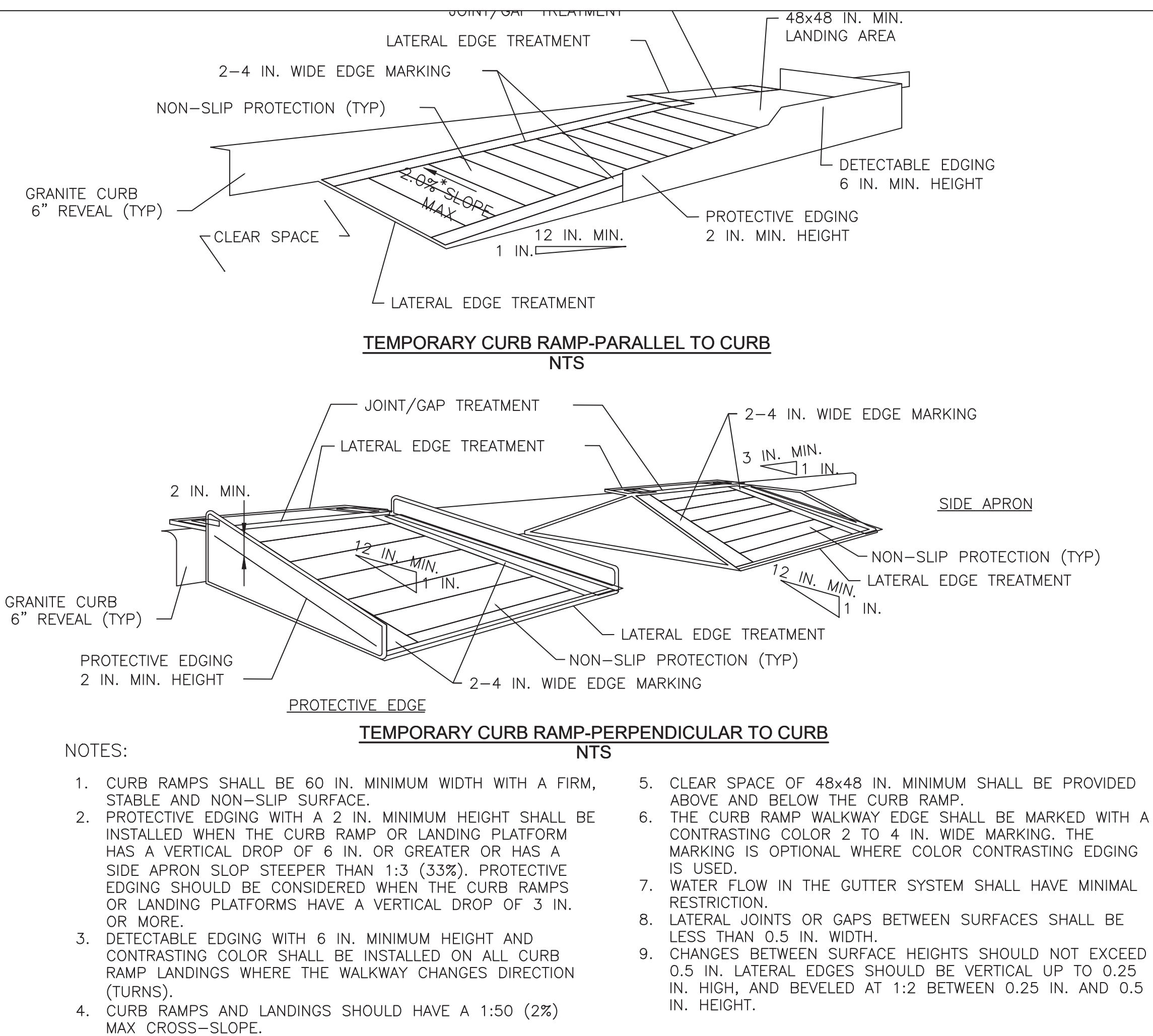


- NOTES**
1. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
 2. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
 3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
 4. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHOULD BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS DIRECTED BY THE ENGINEER. TEMPORARY CURB RAMPS WILL BE REQUIRED AT ALL TEMPORARY CROSSWALK LOCATIONS.
 5. BYPASS IS TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.
 6. THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THIS WALKWAY EXCEEDS 200 FEET THEN A 5 FOOT X 5 FOOT PASSING ZONE. (FOR SHORT TERM SETUPS < 10 HOURS, THIS CONDITION MAY BE WAIVED. A NOTE WOULD NEED TO BE INCLUDED IN THE TTCP THAT STATES HOW THE CONTRACTOR SHOULD ADDRESS THIS ISSUE.)



PEDESTRIAN CHANNELIZING DEVICE

- NOTES:**
- * THERE SHALL BE A 2 INCH GAP BETWEEN THE HAND-TRAILING EDGE AND ITS SUPPORT.
 - ** A MAXIMUM 2 INCH GAP BETWEEN THE BOTTOM OF THE BOTTOM RAIL AND THE SURFACE MAY BE USED TO PROVIDE DRAINAGE.

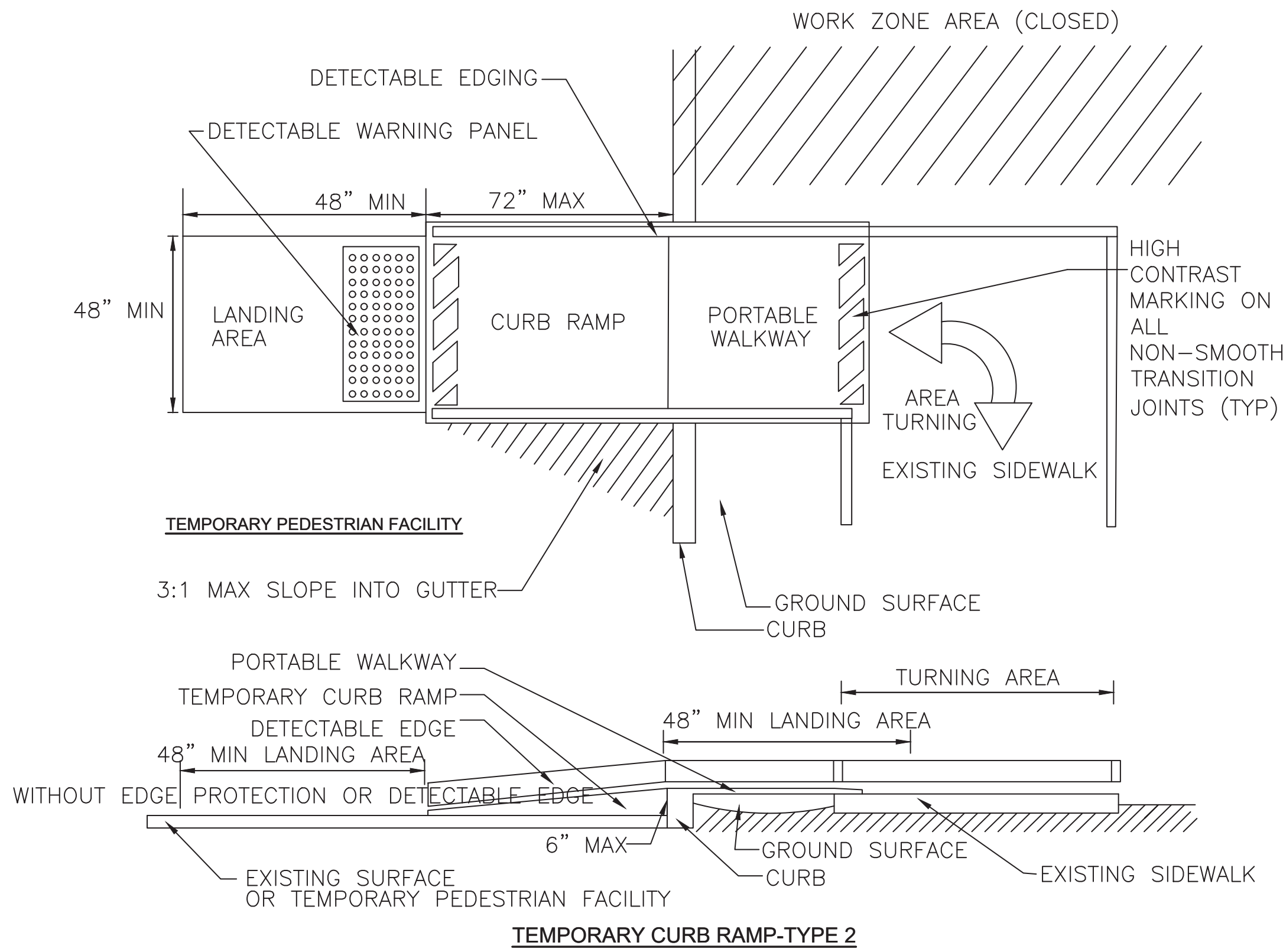


PEDESTRIAN BYPASS
NTS

- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, temporary facilities shall be provided and they shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
- A pedestrian channelizing device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
- When used, temporary ramps shall comply with Americans with Disabilities Act (see Figures Ped-1 & Ped-2).
- The alternate pathway should have a smooth continuous hard surface for the entire length of the temporary pedestrian facility.
- The protective requirements of a TTC situation have priority in determining the need for temporary traffic barriers and their use in this situation should be based on engineering judgment.
- Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.

AUDIBLE DEVICES

For long term sidewalk closures (at a minimum overnight) a form of speech messaging for pedestrians with visual disabilities shall be provided. Audible information devices such as detectable barriers or barricades and other passive pedestrian activation (motion activated) devices should be considered for these cases. These audible devices can be mountable or stand alone.

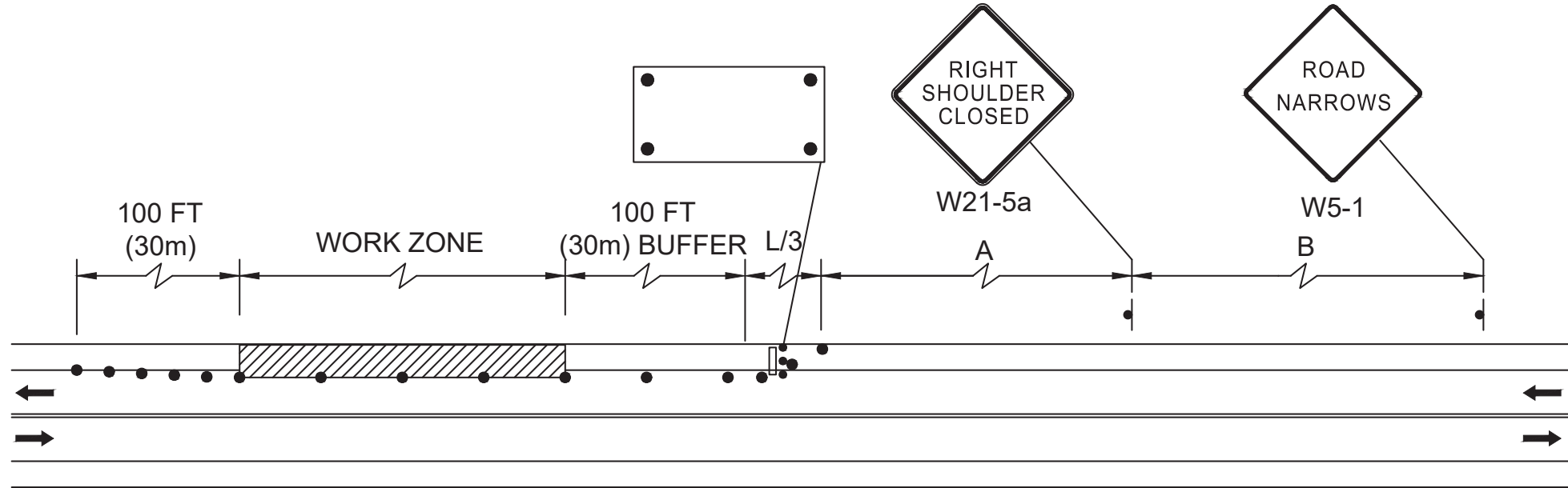


PROFESSIONAL CERTIFICATION		REUSE OF DOCUMENTS				MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT		FINAL DESIGN	
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE:6/30/2020.		ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.				 2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com		PROJECT NO. 60139	
		DSGN	CBK					DATE 3/18/2020	
		DR	RPI					DRAWING NO. TTCP.02	
		CHK	KMF					SHEET NO. 25 OF 39	
		APVD	ELG	NO.	DATE	REVISION	BY	APVD	

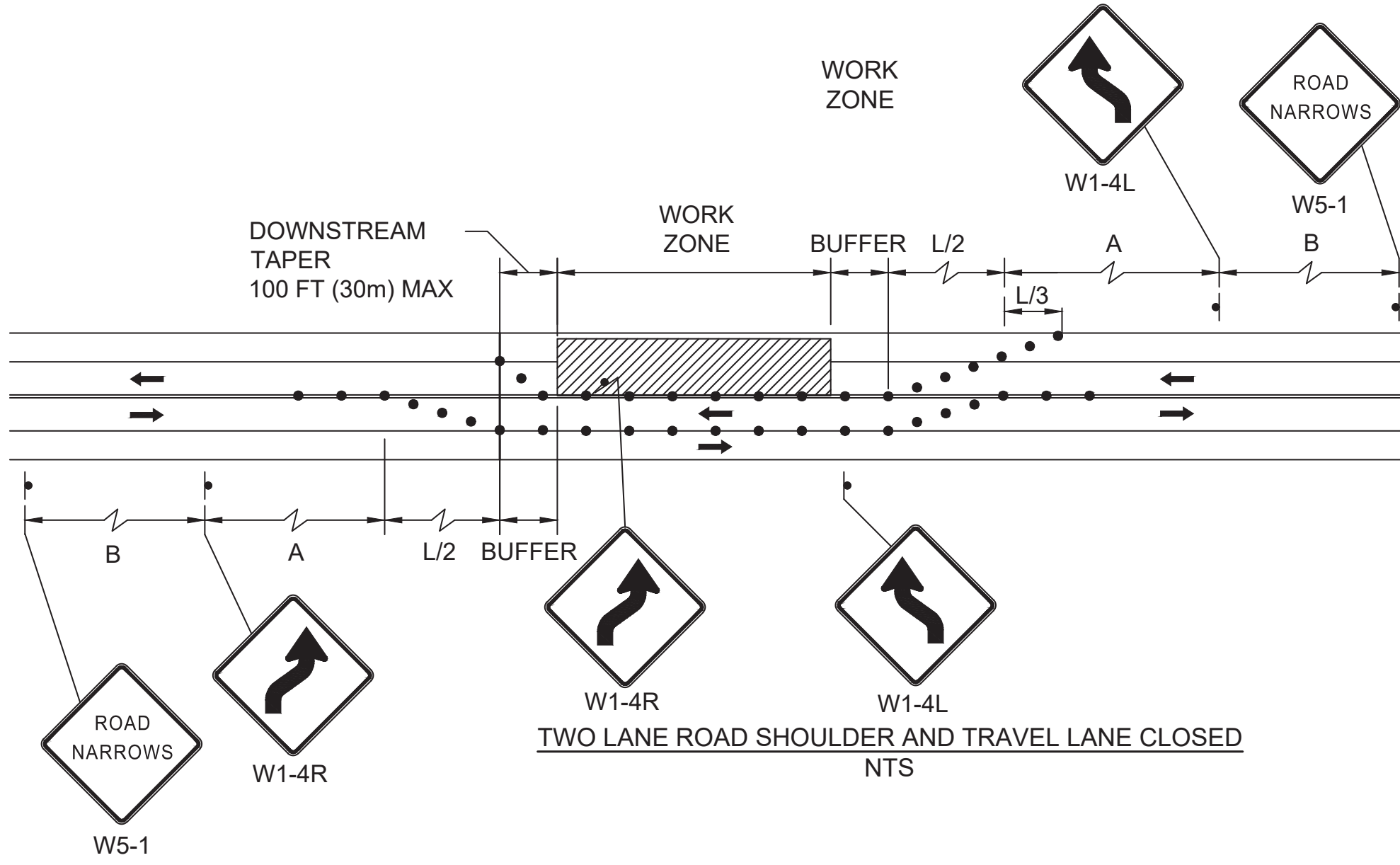
FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	$L = WS$

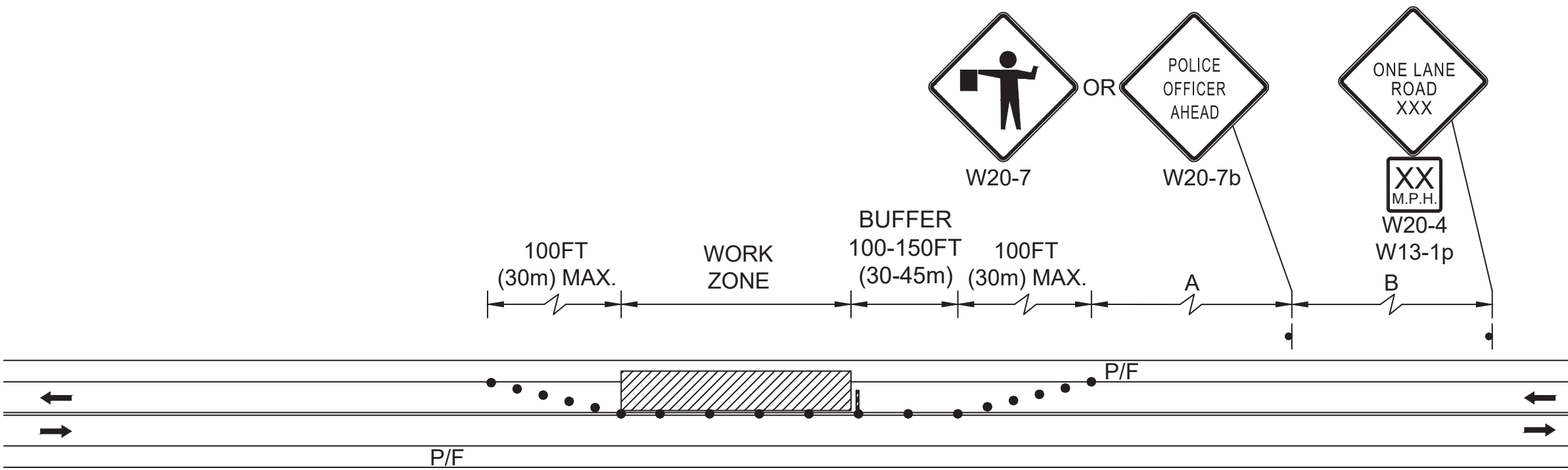
WHERE: L = TAPER LENGTH IN FEET (METERS)
W = WIDTH OF OFFSET IN FEET (METERS)
S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH



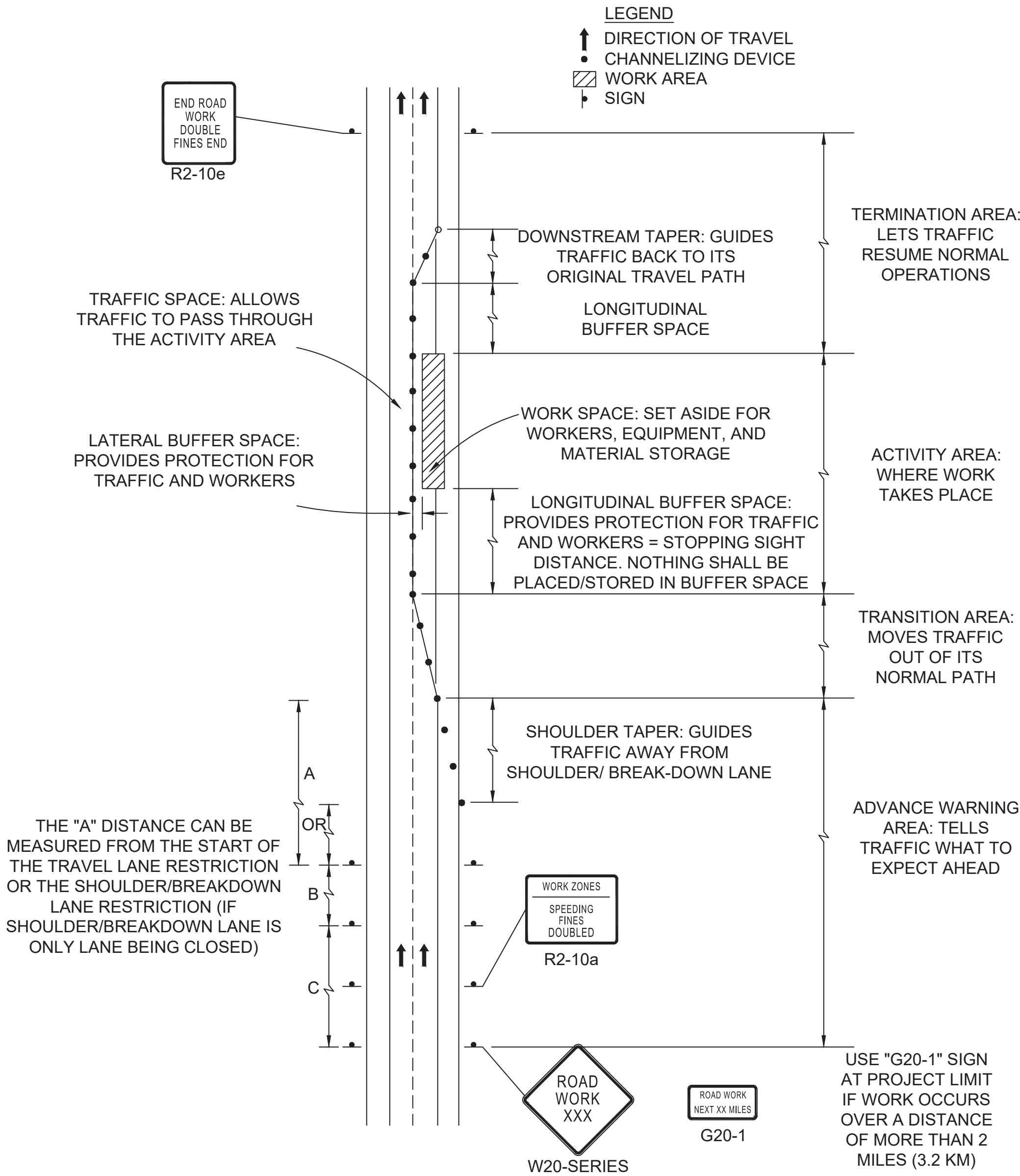
TWO LANE ROAD SHOULDER CLOSED
NTS



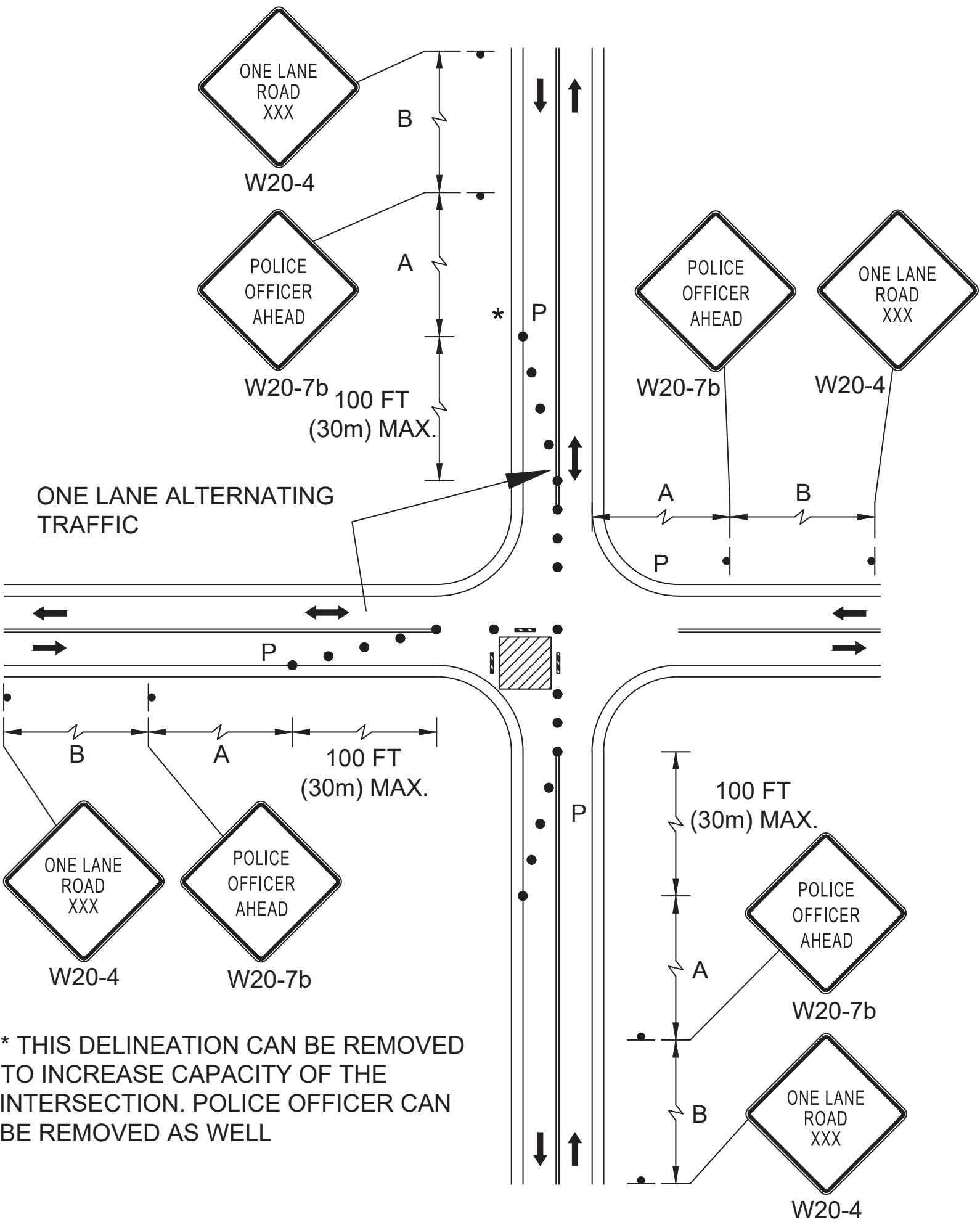
TWO LANE ROAD SHOULDER AND TRAVEL LANE CLOSED
NTS



TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC
NTS



COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL (TTC) ZONE



* THIS DELINEATION CAN BE REMOVED TO INCREASE CAPACITY OF THE INTERSECTION. POLICE OFFICER CAN BE REMOVED AS WELL

SINGLE LANE APPROACH ONE QUADRANT CLOSURE

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)*
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN. 100 FT MAX.
DOWNSTREAM TAPER	50 FT MIN. 100 FT MAX. PER LANE

FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK	DR	RPI	CHK	KMF	APVD	ELG	NO.	DATE	REVISION	BY	APVD

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

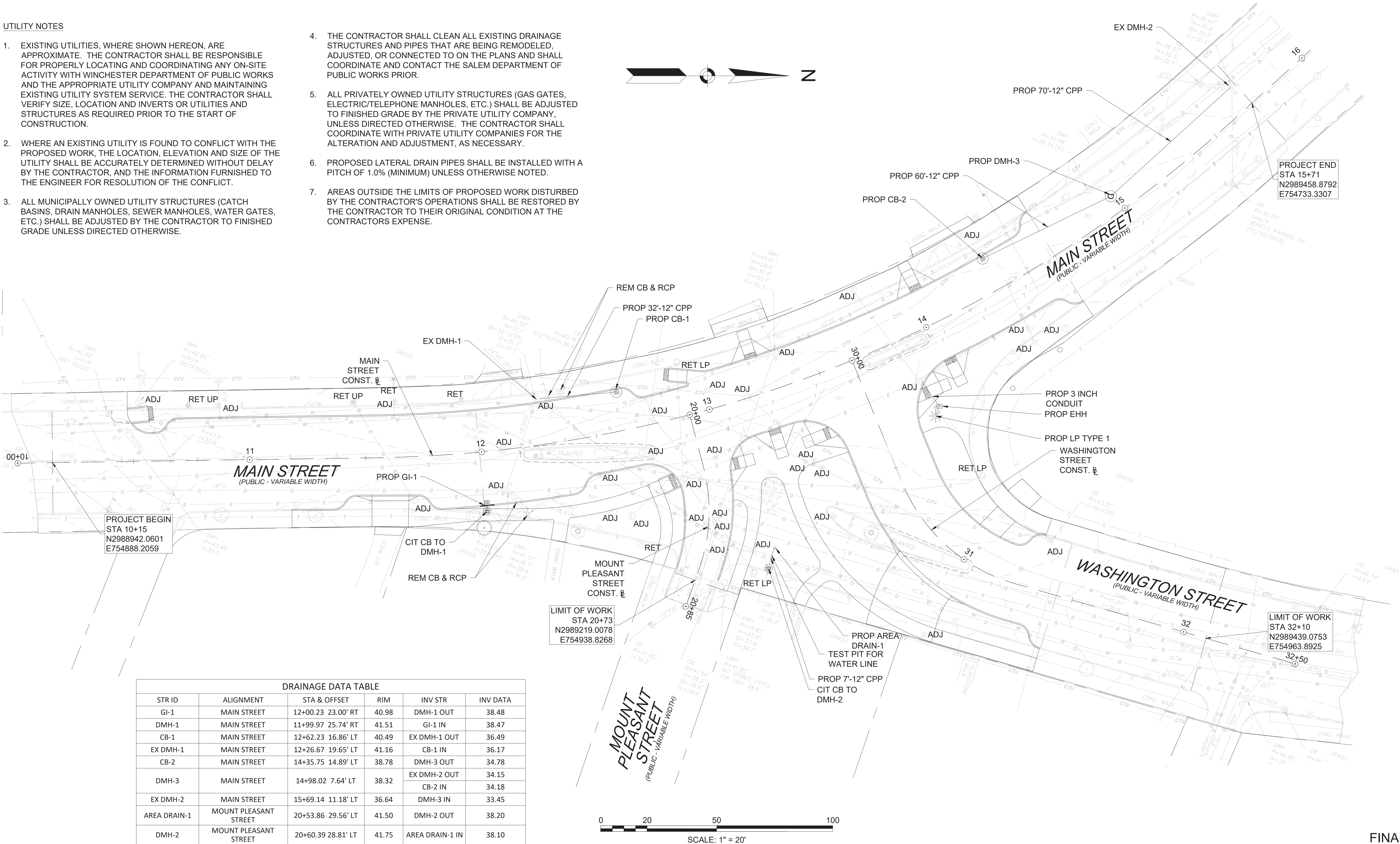
MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

TEMPORARY TRAFFIC CONTROL PLANS

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	TTCP.03
SHEET NO.	26 OF 39

UTILITY NOTES

- EXISTING UTILITIES, WHERE SHOWN HEREON, ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH WINCHESTER DEPARTMENT OF PUBLIC WORKS AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OR UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- ALL MUNICIPALLY OWNED UTILITY STRUCTURES (CATCH BASINS, DRAIN MANHOLES, SEWER MANHOLES, WATER GATES, ETC.) SHALL BE ADJUSTED BY THE CONTRACTOR TO FINISHED GRADE UNLESS DIRECTED OTHERWISE.
- THE CONTRACTOR SHALL CLEAN ALL EXISTING DRAINAGE STRUCTURES AND PIPES THAT ARE BEING REMODELED, ADJUSTED, OR CONNECTED TO ON THE PLANS AND SHALL COORDINATE AND CONTACT THE SALEM DEPARTMENT OF PUBLIC WORKS PRIOR.
- ALL PRIVATELY OWNED UTILITY STRUCTURES (GAS GATES, ELECTRIC/TELEPHONE MANHOLES, ETC.) SHALL BE ADJUSTED TO FINISHED GRADE BY THE PRIVATE UTILITY COMPANY, UNLESS DIRECTED OTHERWISE. THE CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY COMPANIES FOR THE ALTERATION AND ADJUSTMENT, AS NECESSARY.
- PROPOSED LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 1.0% (MINIMUM) UNLESS OTHERWISE NOTED.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE.



DRAINAGE DATA TABLE					
STR ID	ALIGNMENT	STA & OFFSET	RIM	INV STR	INV DATA
GI-1	MAIN STREET	12+00.23 23.00' RT	40.98	DMH-1 OUT	38.48
DMH-1	MAIN STREET	11+99.97 25.74' RT	41.51	GI-1 IN	38.47
CB-1	MAIN STREET	12+62.23 16.86' LT	40.49	EX DMH-1 OUT	36.49
EX DMH-1	MAIN STREET	12+26.67 19.65' LT	41.16	CB-1 IN	36.17
CB-2	MAIN STREET	14+35.75 14.89' LT	38.78	DMH-3 OUT	34.78
DMH-3	MAIN STREET	14+98.02 7.64' LT	38.32	EX DMH-2 OUT	34.15
				CB-2 IN	34.18
EX DMH-2	MAIN STREET	15+69.14 11.18' LT	36.64	DMH-3 IN	33.45
AREA DRAIN-1	MOUNT PLEASANT STREET	20+53.86 29.56' LT	41.50	DMH-2 OUT	38.20
DMH-2	MOUNT PLEASANT STREET	20+60.39 28.81' LT	41.75	AREA DRAIN-1 IN	38.10

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK								
DR	RPI								
CHK	KMF								
APVD	ELG	NO.	DATE	REVISION	BY	APVD			

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

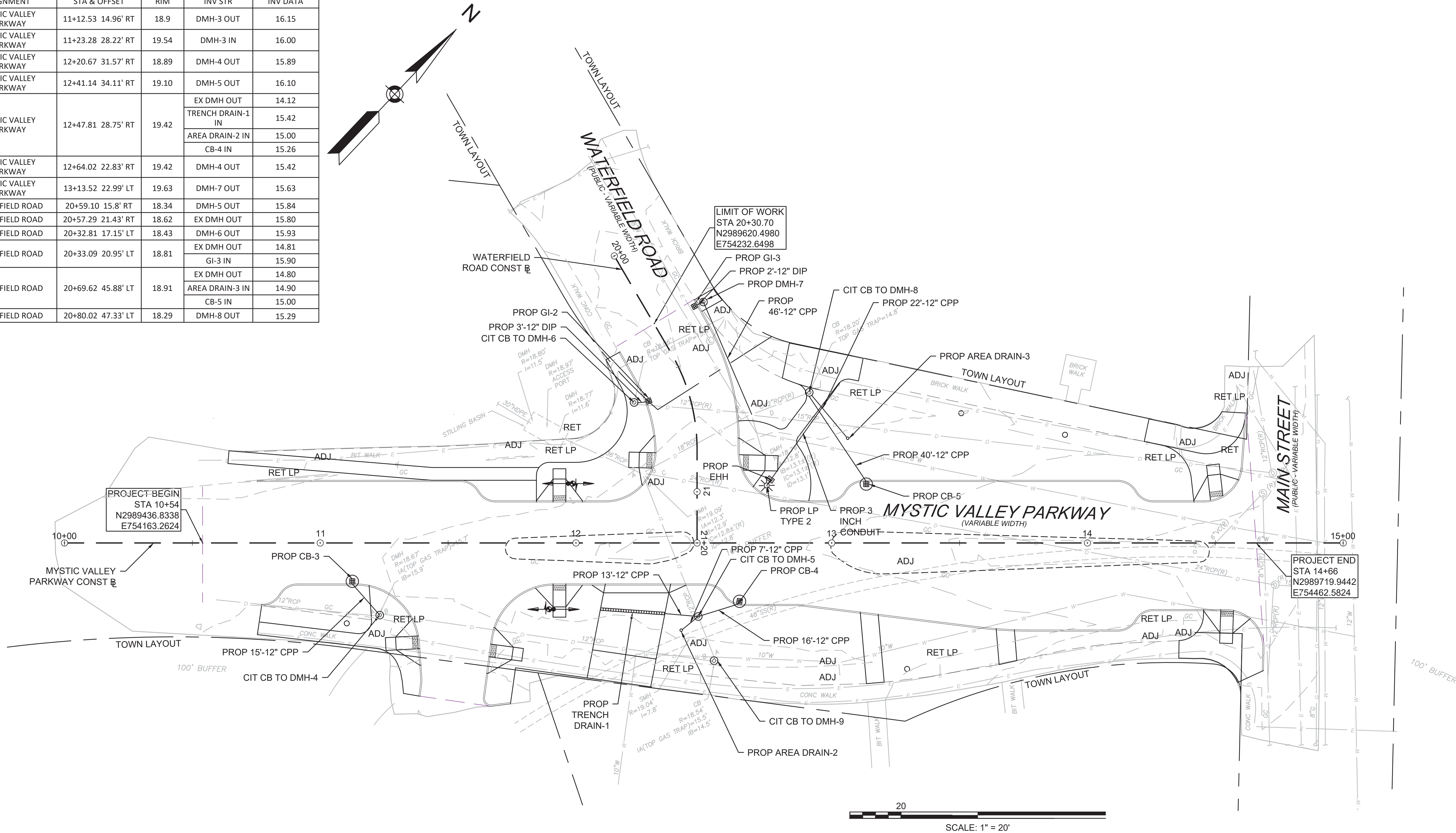
MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MAIN STREET AT WASHINGTON STREET
DRAINAGE AND UTILITY PLAN

FINAL DESIGN

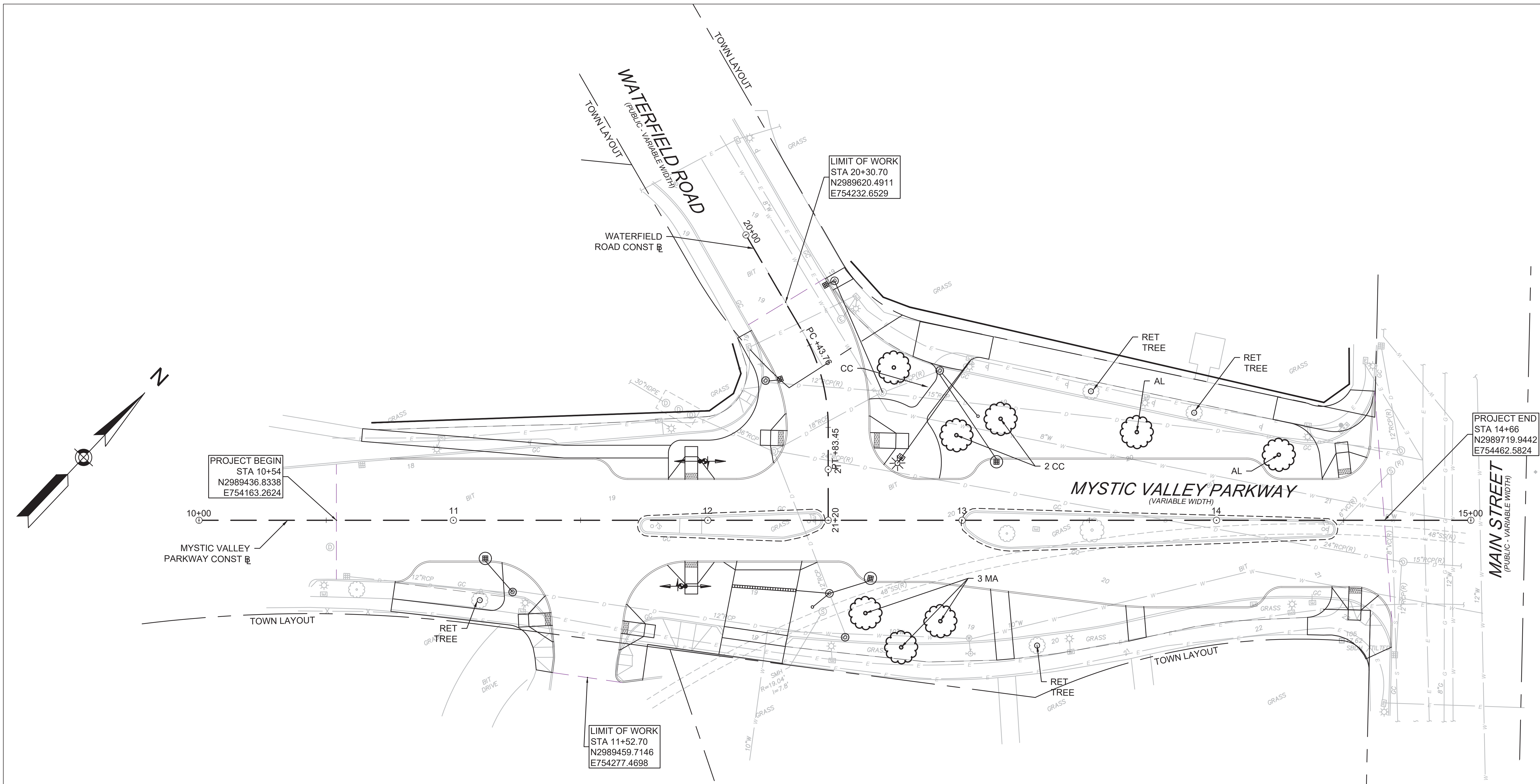
PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	DU.01
SHEET NO.	27 OF 39

DRAINAGE DATA TABLE					
STR ID	ALIGNMENT	STA & OFFSET	RIM	INV STR	INV DATA
CB-3	MYSTIC VALLEY PARKWAY	11+12.53 14.96' RT	18.9	DMH-3 OUT	16.15
DMH-4	MYSTIC VALLEY PARKWAY	11+23.28 28.22' RT	19.54	DMH-3 IN	16.00
TRENCH DRAIN-1	MYSTIC VALLEY PARKWAY	12+20.67 31.57' RT	18.89	DMH-4 OUT	15.89
AREA DRAIN-2	MYSTIC VALLEY PARKWAY	12+41.14 34.11' RT	19.10	DMH-5 OUT	16.10
DMH-5	MYSTIC VALLEY PARKWAY	12+47.81 28.75' RT	19.42	EX DMH OUT	14.12
				TRENCH DRAIN-1 IN	15.42
				AREA DRAIN-2 IN	15.00
				CB-4 IN	15.26
CB-4	MYSTIC VALLEY PARKWAY	12+64.02 22.83' RT	19.42	DMH-4 OUT	15.42
CB-5	MYSTIC VALLEY PARKWAY	13+13.52 22.99' LT	19.63	DMH-7 OUT	15.63
GI-2	WATERFIELD ROAD	20+59.10 15.8' RT	18.34	DMH-5 OUT	15.84
DMH-6	WATERFIELD ROAD	20+57.29 21.43' RT	18.62	EX DMH OUT	15.80
GI-3	WATERFIELD ROAD	20+32.81 17.15' LT	18.43	DMH-6 OUT	15.93
DMH-7	WATERFIELD ROAD	20+33.09 20.95' LT	18.81	EX DMH OUT	14.81
				GI-3 IN	15.90
				EX DMH OUT	14.80
DMH-8	WATERFIELD ROAD	20+69.62 45.88' LT	18.91	AREA DRAIN-3 IN	14.90
				CB-5 IN	15.00
AREA DRAIN-3	WATERFIELD ROAD	20+80.02 47.33' LT	18.29	DMH-8 OUT	15.29

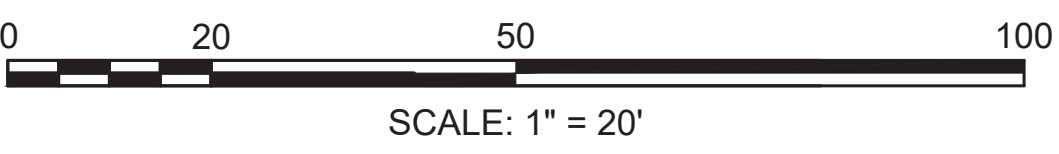


FINAL DESIGN

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.		REUSE OF DOCUMENTS ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.						TOOLE DESIGN 2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com		MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT		MYSTIC VALLEY PARKWAY DRAINAGE AND UTILITY PLAN		PROJECT NO. 60139
		DSGN	CBK											DATE 3/18/2020
		DR	RPI											DRAWING NO. DU.02
		CHK	KMF											SHEET NO. 28 OF 39
		APVD	ELG	NO.	DATE	REVISION			BY	APVD				



PROPOSED PLANTING TABLE						
ABBREVIATION	SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
CC		3	CERCIS CANADENSIS	EASTERN REDBUD	2"-2.5"	
AL		2	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	2"-2.5"	
MA		3	MAACKIA AMURENSIS	AMUR MAACKIA	2"-2.5"	



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE 6/30/2020.



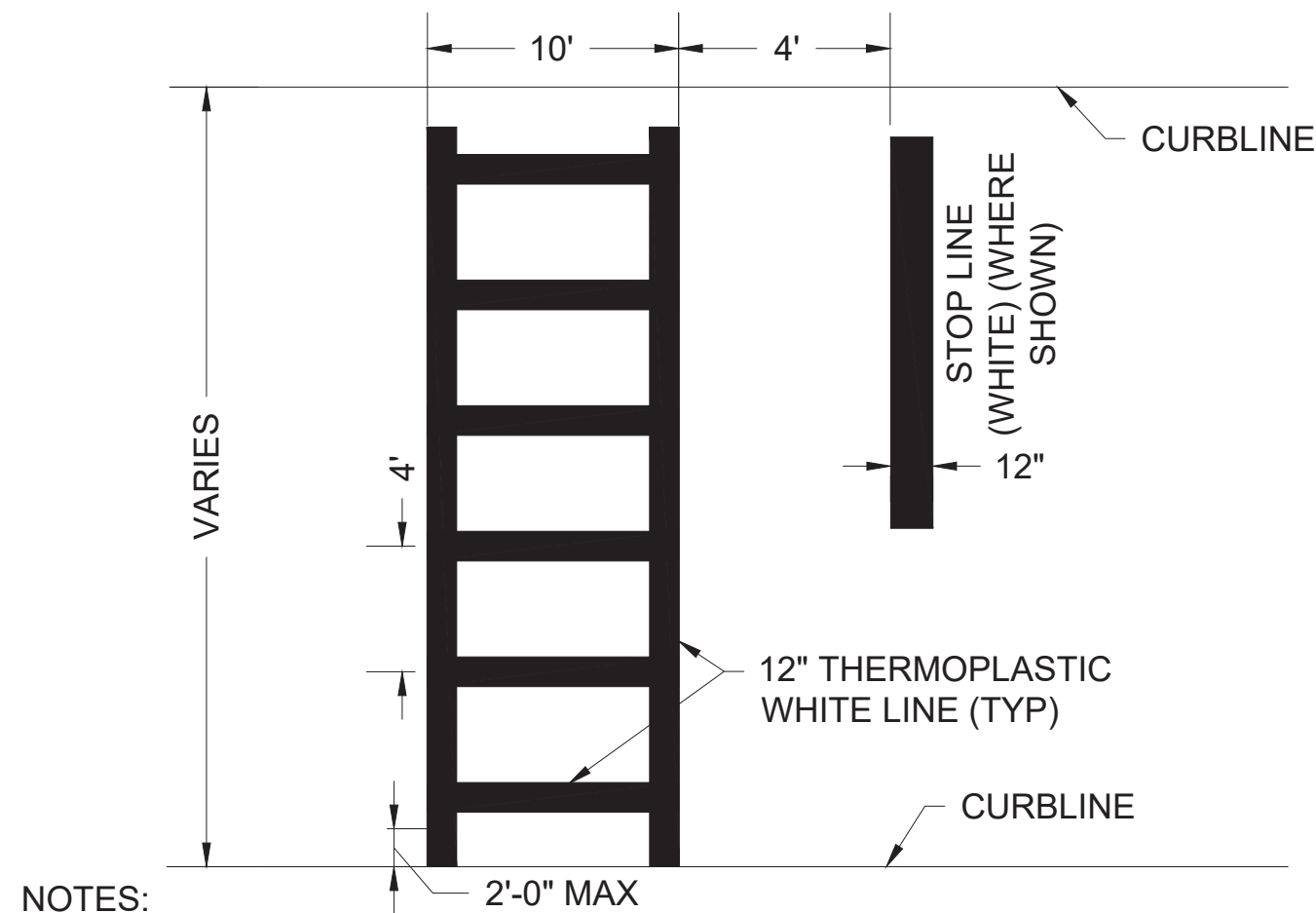
REUSE OF DOCUMENTS							
ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.							
DSGN	CBK						
DR	RPI						
CHK	KMF						
APVD	ELG	NO.	DATE	REVISION	BY	APVD	

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

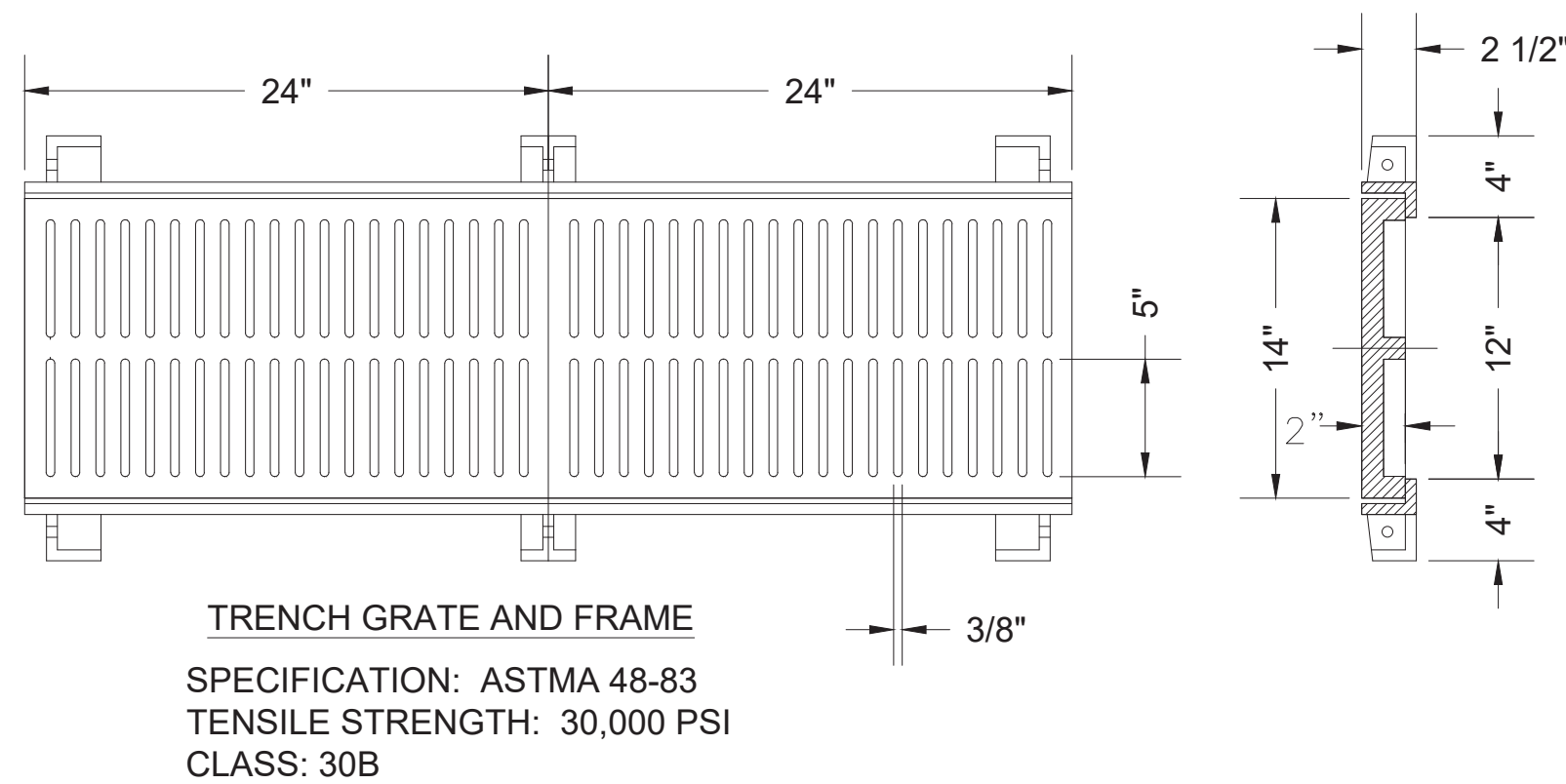
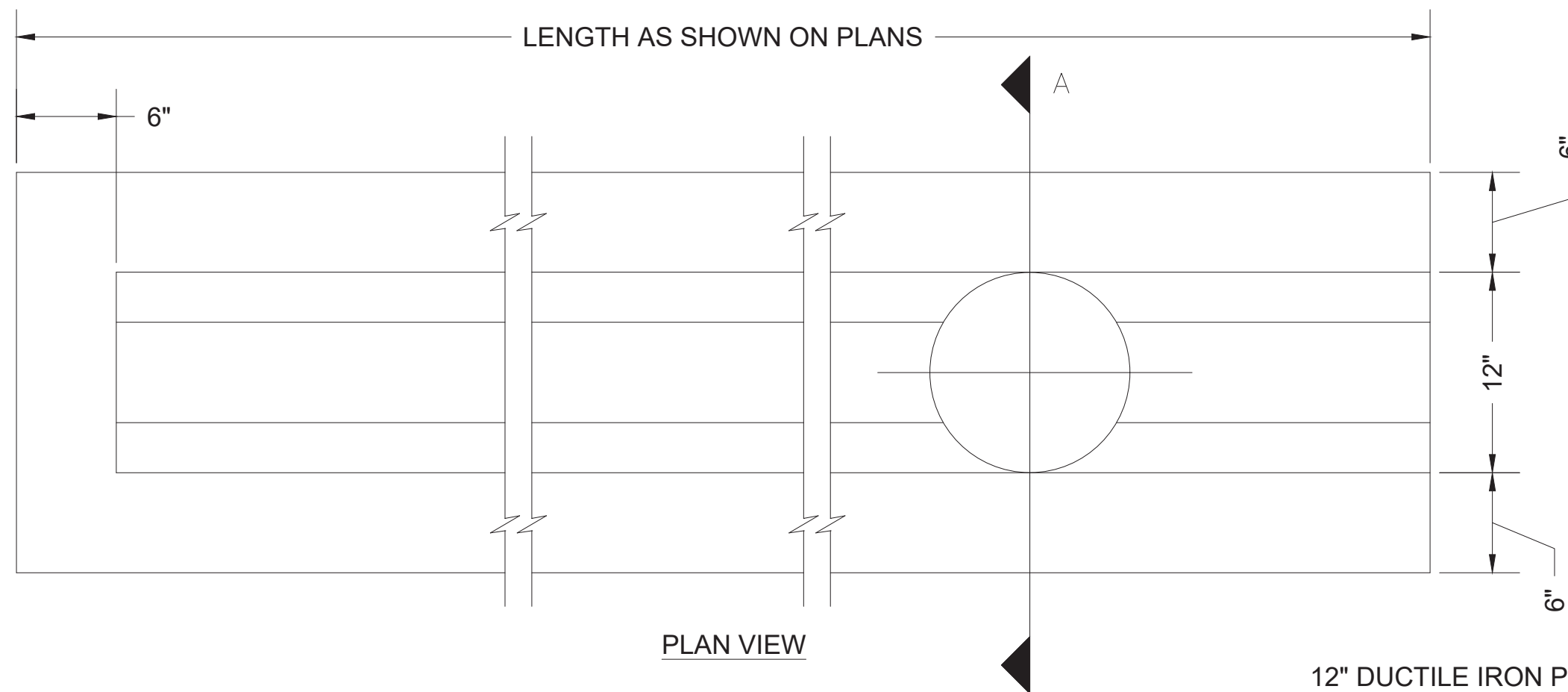
MYSTIC VALLEY PARKWAY PLANTING PLAN		PROJECT NO.	60139
		DATE	3/18/2020
		DRAWING NO.	P.01
		SHEET NO.	29 OF 39

FINAL DESIGN



- NOTES:
- ALL 12" LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED.
 - LAYOUT OF CROSSWALKS SHALL BE APPROVED BY THE ENGINEER PRIOR TO APPLICATION.
 - CROSSWALK BARS SHALL BE PLACED OUTSIDE THE VEHICULAR WHEEL PATH WHEREVER POSSIBLE.

TYPICAL CROSSWALK PAVEMENT MARKING
NOT TO SCALE



TRENCH GRATE AND FRAME
SPECIFICATION: ASTM A 48-83
TENSILE STRENGTH: 30,000 PSI
CLASS: 30B

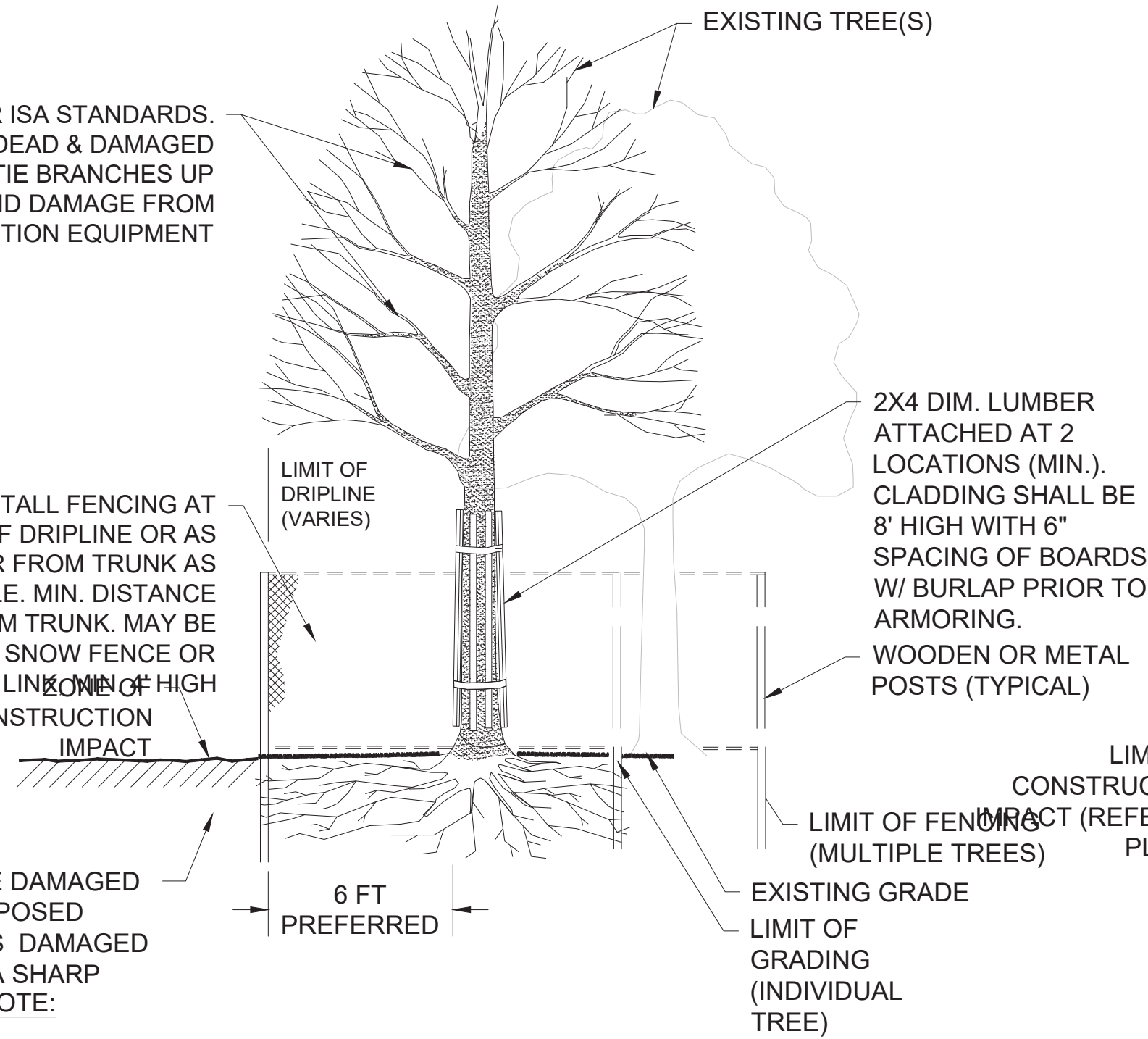
TRENCH DRAIN
NOT TO SCALE

PRUNE PER ISA STANDARDS. REMOVE DEAD & DAMAGED BRANCHES. TIE BRANCHES UP TO AVOID DAMAGE FROM CONSTRUCTION EQUIPMENT

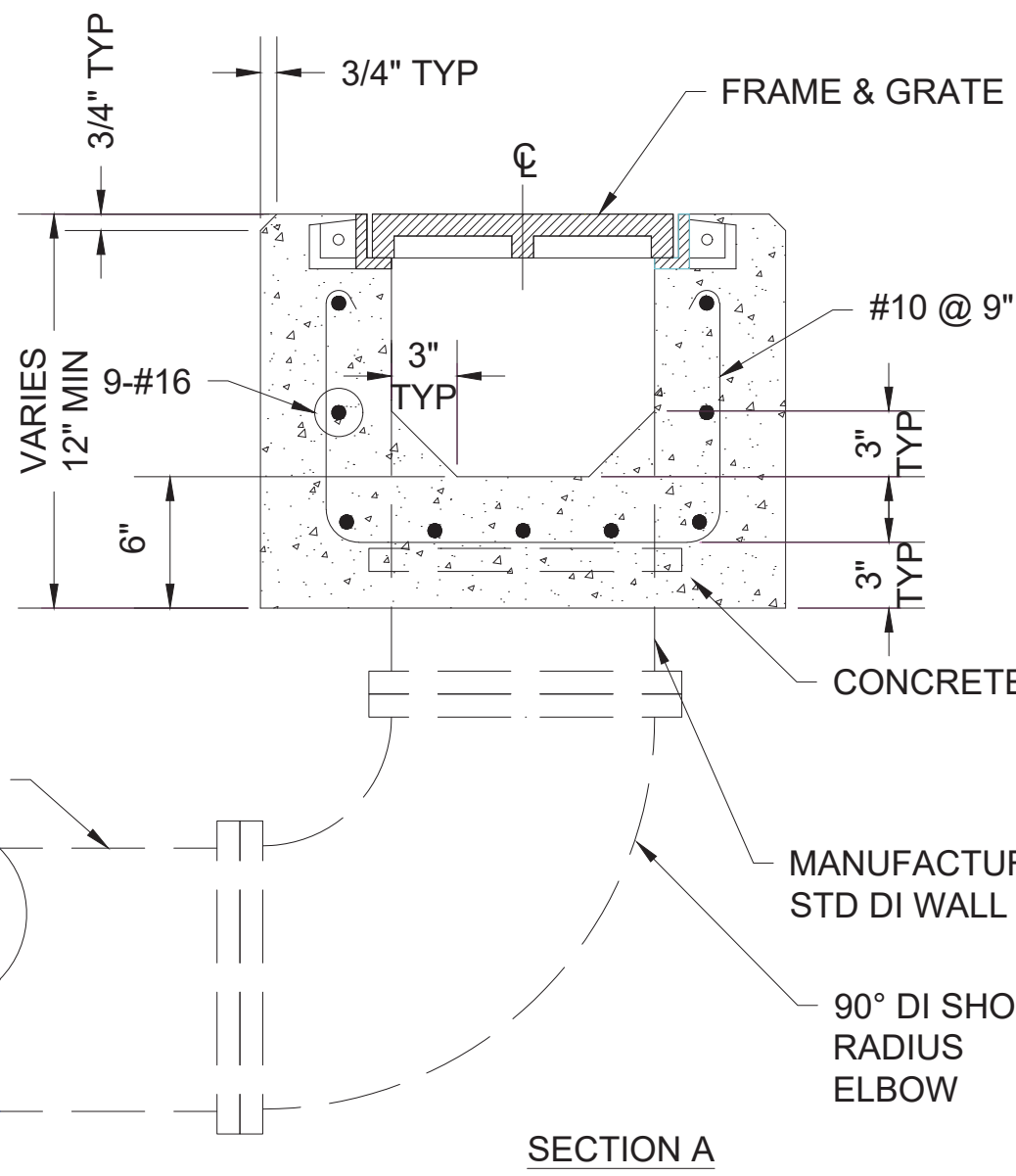
INSTALL FENCING AT EDGE OF DRIPLINE OR AS FAR FROM TRUNK AS POSSIBLE. MIN. DISTANCE IS 6' FROM TRUNK. MAY BE PLASTIC SNOW FENCE OR CHAIN LINK OR HIGH CONSTRUCTION IMPACT

PRUNE DAMAGED OR EXPOSED ROOTS DAMAGED WITH A SHARP SAW NOTE:

NO STORAGE OF EQUIPMENT OR STOCKPILING OF MATERIALS WITHIN DRIPLINE OF THE TREE IS ALLOWED.



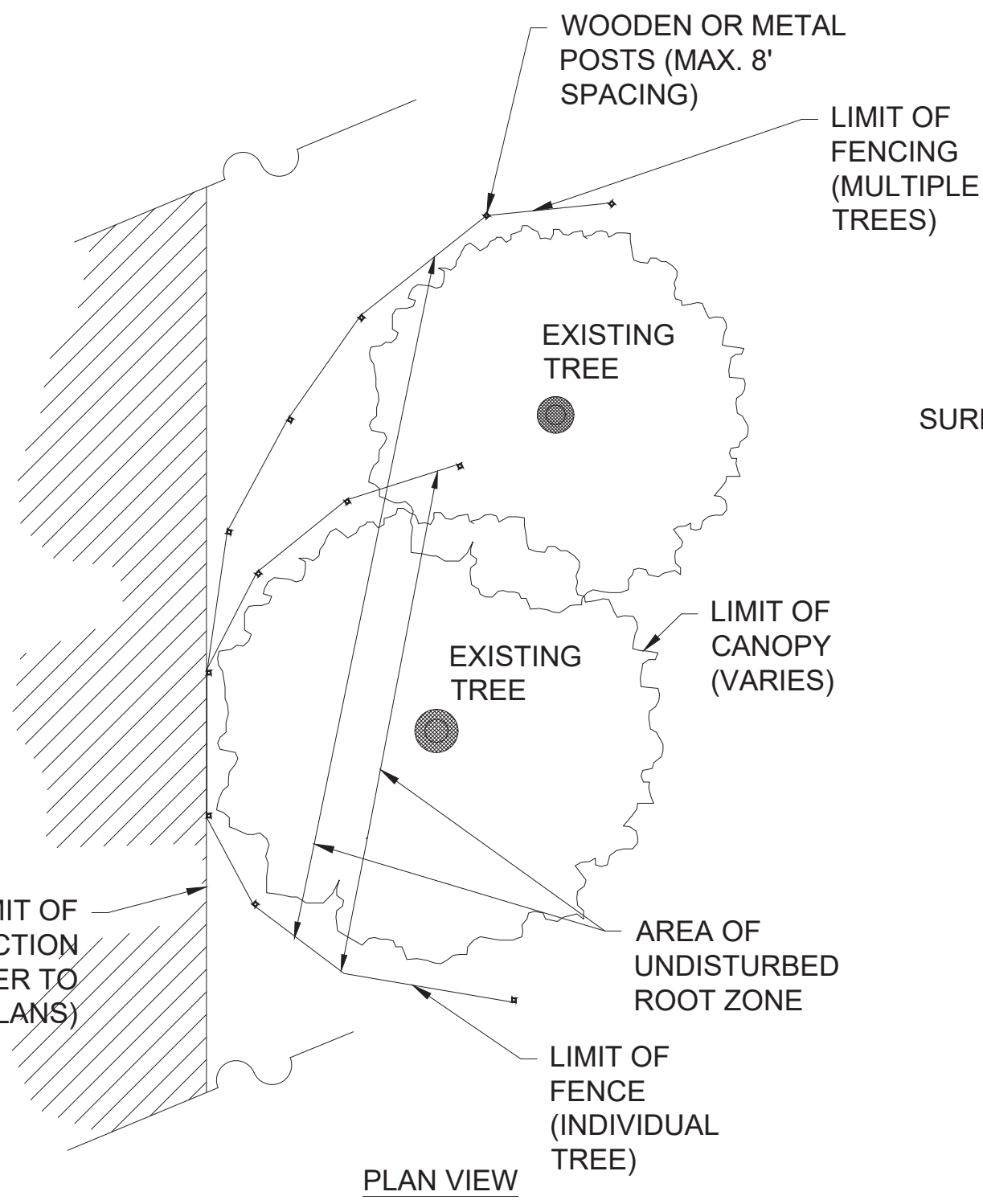
TREE PROTECTION - EXISTING TREE
NOT TO SCALE



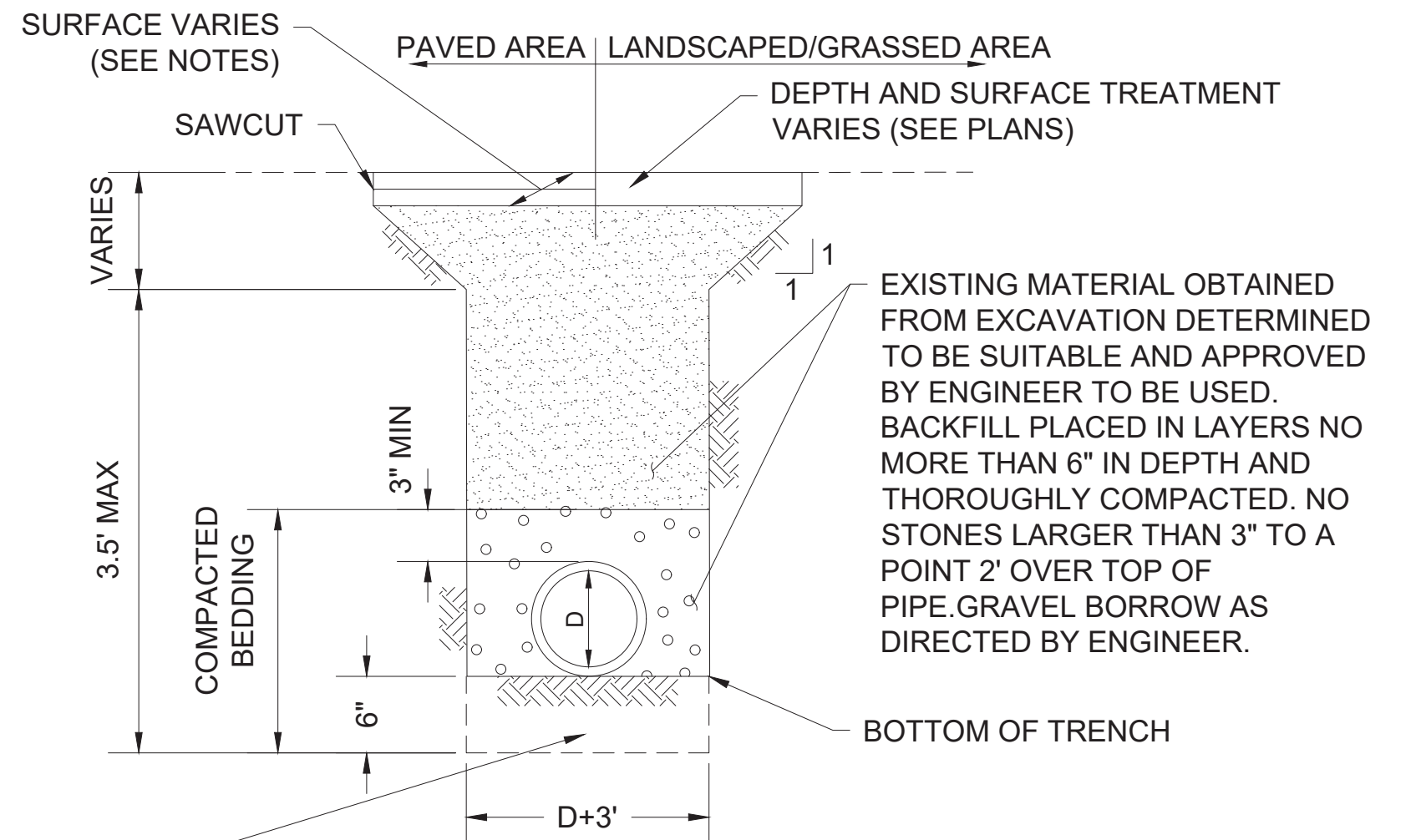
NOTES:

- SEE GRADING PLANS FOR TRENCH INVERTS.
- MAINTAIN A CONSTANT SLOPE ALONG TRENCH BOTTOM.
- FOR FRAMES AND GRATINGS MINOR VARIATIONS IN DESIGN AND DIMENSIONS ARE PERMITTED TO ALLOW MANUFACTURERS STANDARDS.
- SET TOP OF GRATING 1/8" BELOW FINISH PAVEMENT.
- STRUCTURAL DESIGN LOADING: H20-44.
- FRAMES AND GRATINGS SHALL BE ADA COMPLIANT AND LOCKABLE.
- FRAMES AND GRATINGS SHALL BE GALVANIZED AFTER FABRICATION.
- PROVIDE PIPE STRAINER AT ALL PIPES.
- BASE OF TRENCH DRAIN SHALL BE 6" MIN.

SECTION A



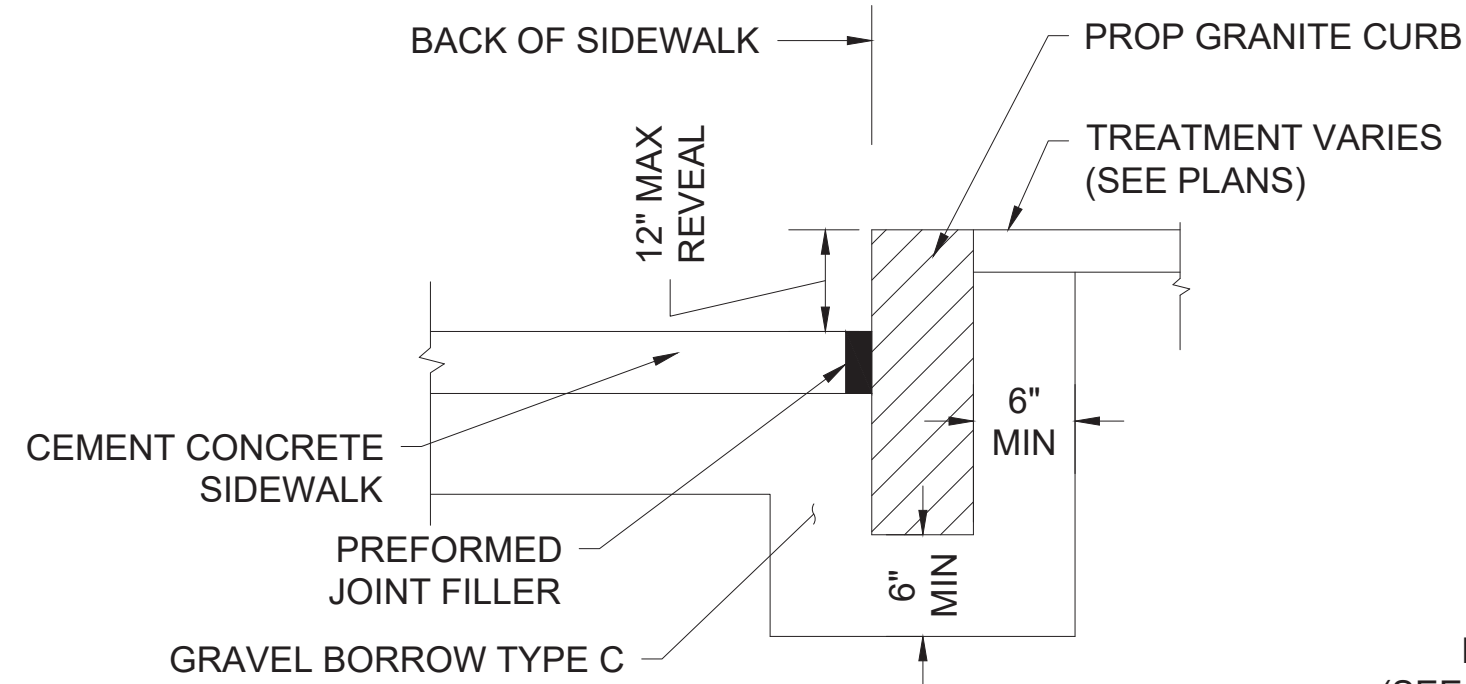
OVER EXCAVATION WHEN ENCOUNTERING SOFT OR UNSUITABLE MATERIAL AS DIRECTED BY THE ENGINEER.



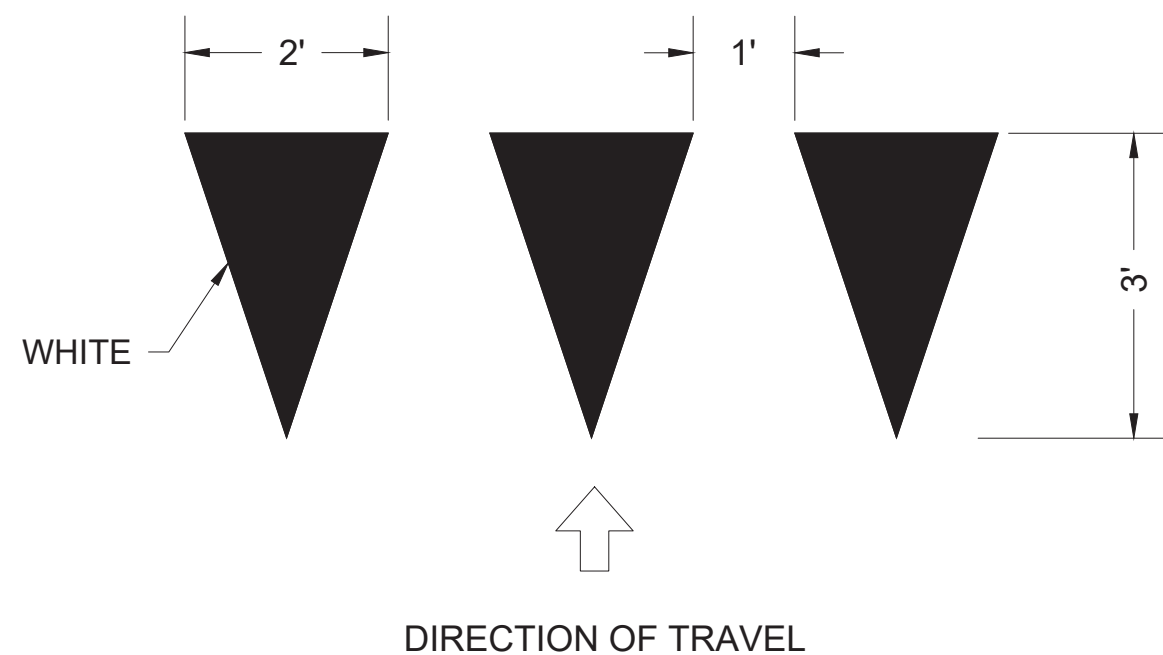
NOTE:

TEMPORARY OR PERMANENT PATCHING SHALL BE IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

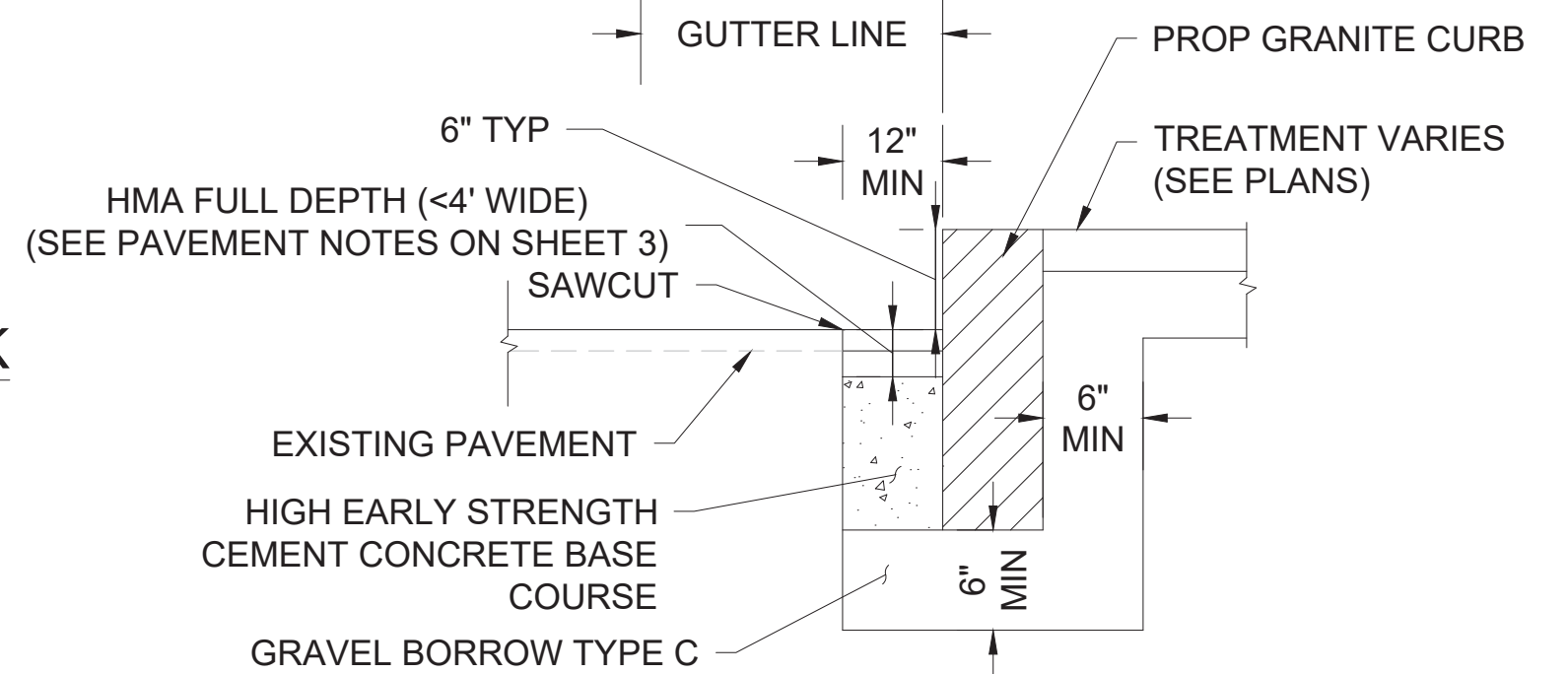
DRAINAGE TRENCH
NOT TO SCALE



GRANITE CURB AT BACK OF SIDEWALK
NOT TO SCALE



YIELD LINE PAVEMENT MARKINGS
NOT TO SCALE



* CONCRETE SHALL BE INCLUDED IN PRICE BID FOR VARIOUS GRANITE CURB ITEMS FOR 6" OFFSET FROM FACE OF CURB.

NOTE: ADDITIONAL CONCRETE SUPPORT SHALL BE PROVIDED FOR STABILITY OF GRANITE CURB.

GRANITE CURB IN EXISTING PAVEMENT
NOT TO SCALE

FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK						
DR	RPI						
CHK	KMF						
APVD	ELG	NO.	DATE	REVISION	BY	APVD	

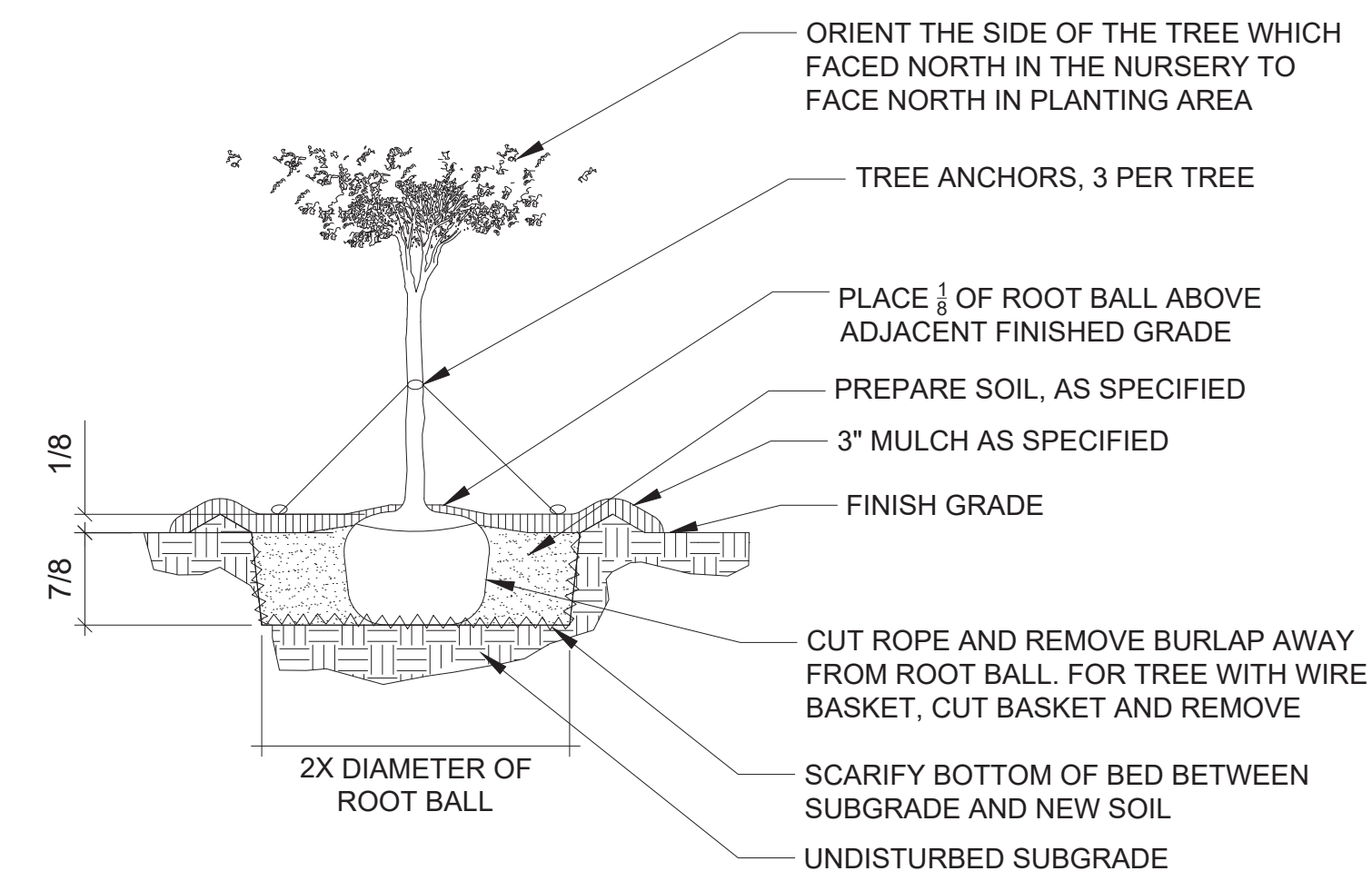
TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

CONSTRUCTION DETAILS

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	CD.01
SHEET NO.	30 OF 39



TUBES CAN BE PLACED DIRECTLY ON EXISTING PAVEMENT WHEN NECESSARY.

TUBES MAY BE PLACED ON THE UPHILL SIDE OF WELL- ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES IN LIEU OF STAKING.

DIRECTION OF FLOW

EXISTING TREE

EXISTING HEADWALL OR OTHER OBSTACLE

STREAM

AREA OF DISTURBANCE

PROTECTED AREA

3.0 FT. (914 mm) MIN.

DIRECTION OF FLOW

TUBES MAY BE SLEEVED (ONE INSERTED INTO ANOTHER) OR PROVIDE A 3 FT. (914mm) MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER.

CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN-OFF.

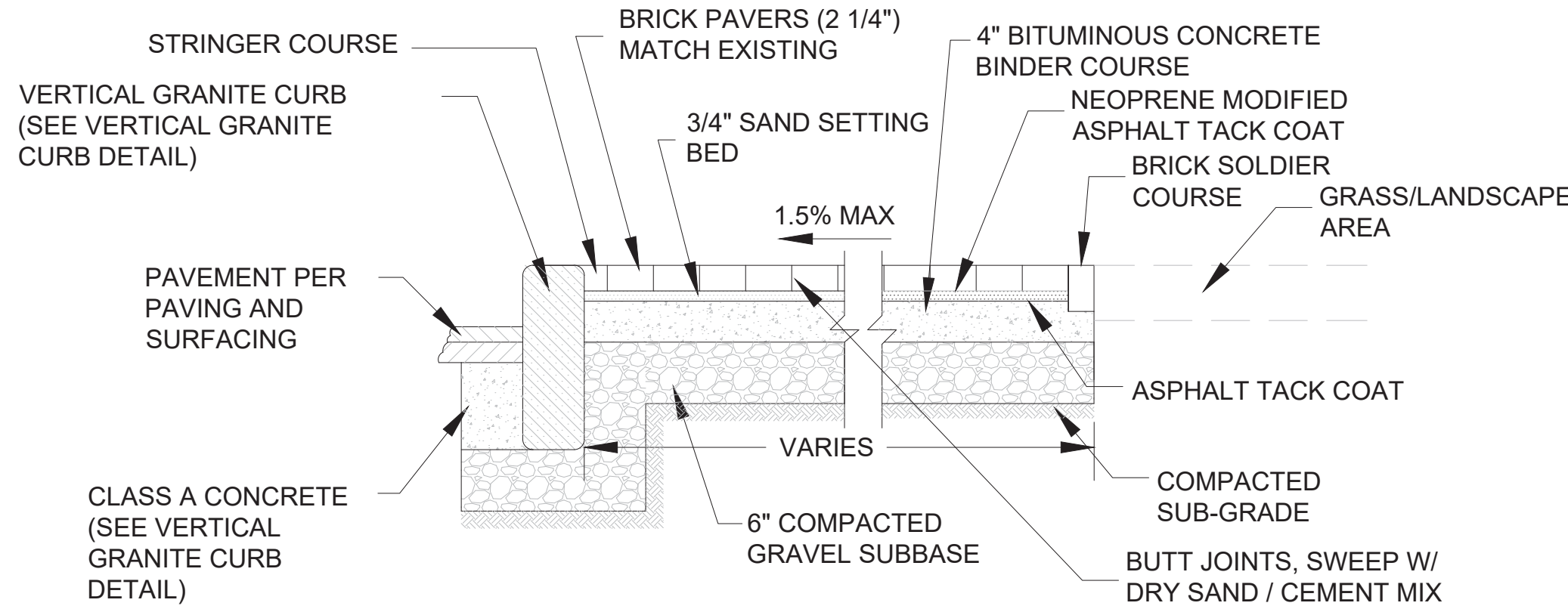
UNTREATED HARDWOOD STAKES (TYP.)

PLAN VIEW

1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES (300mm) FOR SLOPES UP TO 50 FEET (15.24m) IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. TUBE LOCATION MAY BE SHIFTED TO ADJUST TO LANDSCAPE FEATURES, BUT SHALL PROTECT UNDISTURBED AREA AND VEGETATION TO MAXIMUM EXTENT POSSIBLE.
4. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
5. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
6. ADDITIONAL STAKING SHALL BE USED AT THE DIRECTION OF THE ENGINEER.

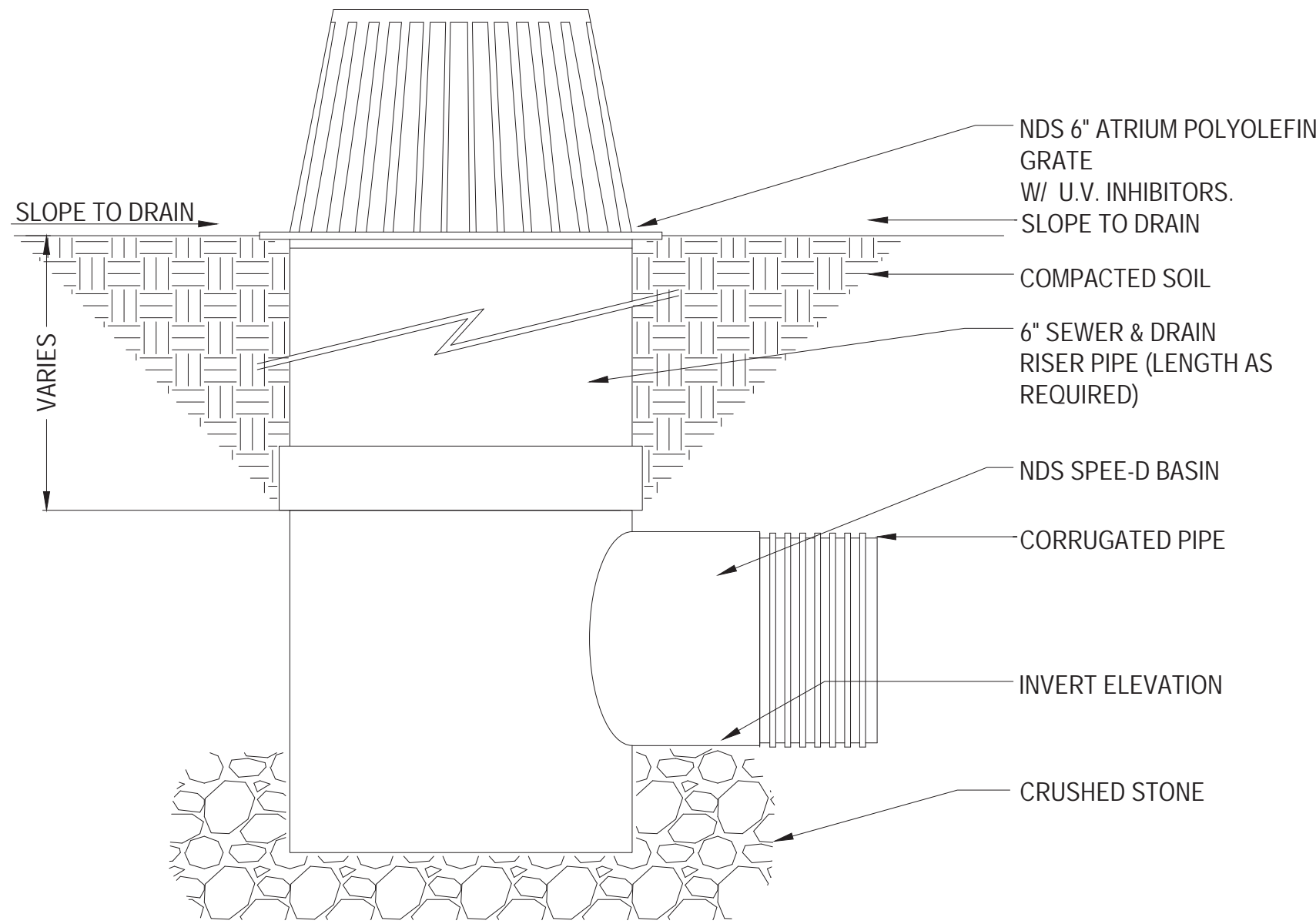
UNDISTURBED SOIL & VEGETATION.
TUBES SHALL BE PLACED AS CLOSE TO LIMITS OF
SOIL DISTURBANCE AS POSSIBLE.

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	CD.02
SHEET NO.	31 OF 39



BRICK SIDEWALK
NOT TO SCALE

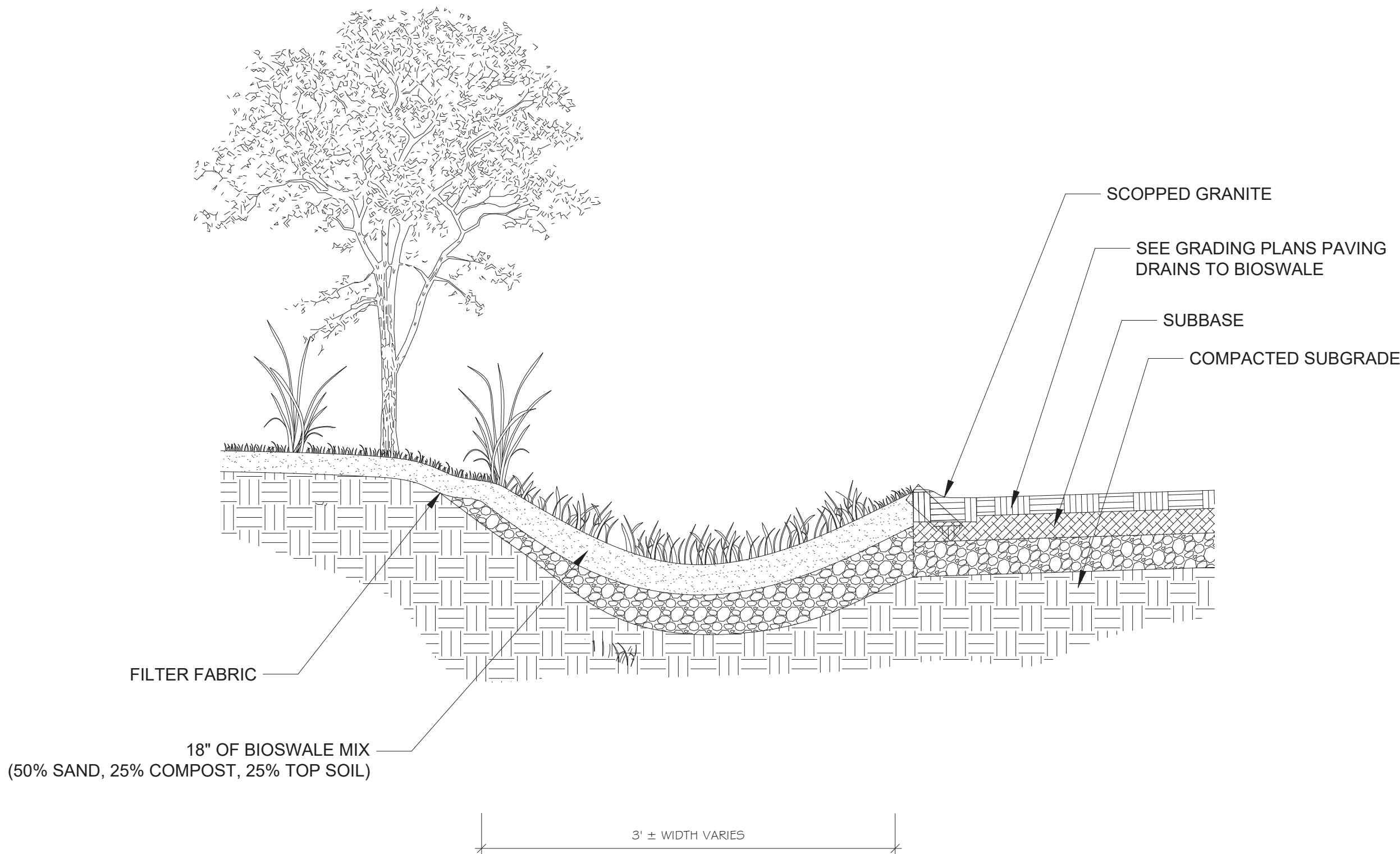
NOTES:
1. SIDEWALKS SHALL MATCH WIDTH AND SLOPE OF EXISTING SIDEWALKS UNLESS OTHERWISE NOTED.
2. BITUMINOUS CONCRETE BINDER COURSE SHALL BE 6" DEPTH (IN TWO 3" COURSES) AT DRIVEWAYS. REFER TO PROJECT DRAWINGS OR ENGINEER'S INSTRUCTIONS FOR LOCATIONS



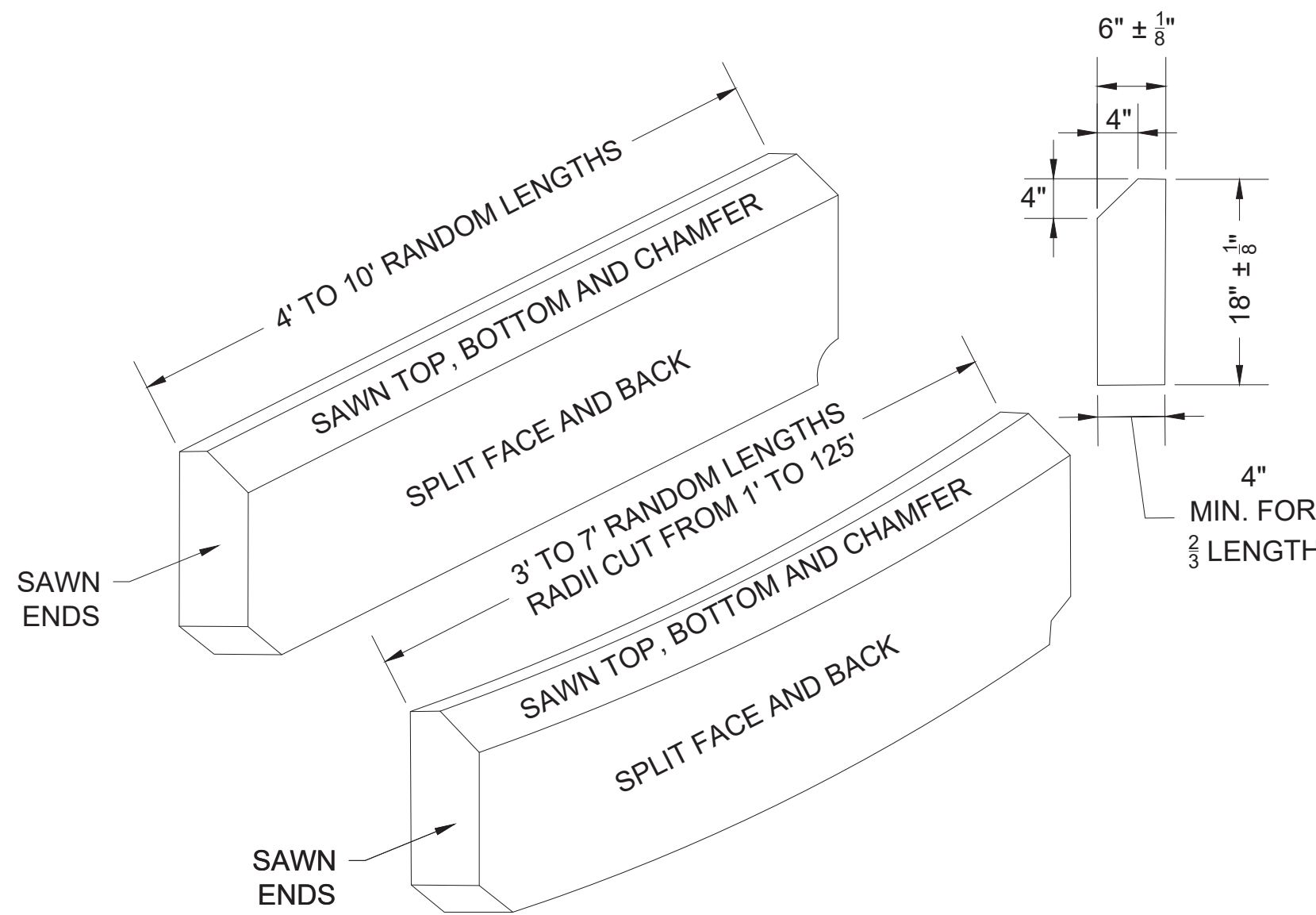
SECTION

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.caddetails.com/info AND ENTER REFERENCE NUMBER 558-210.

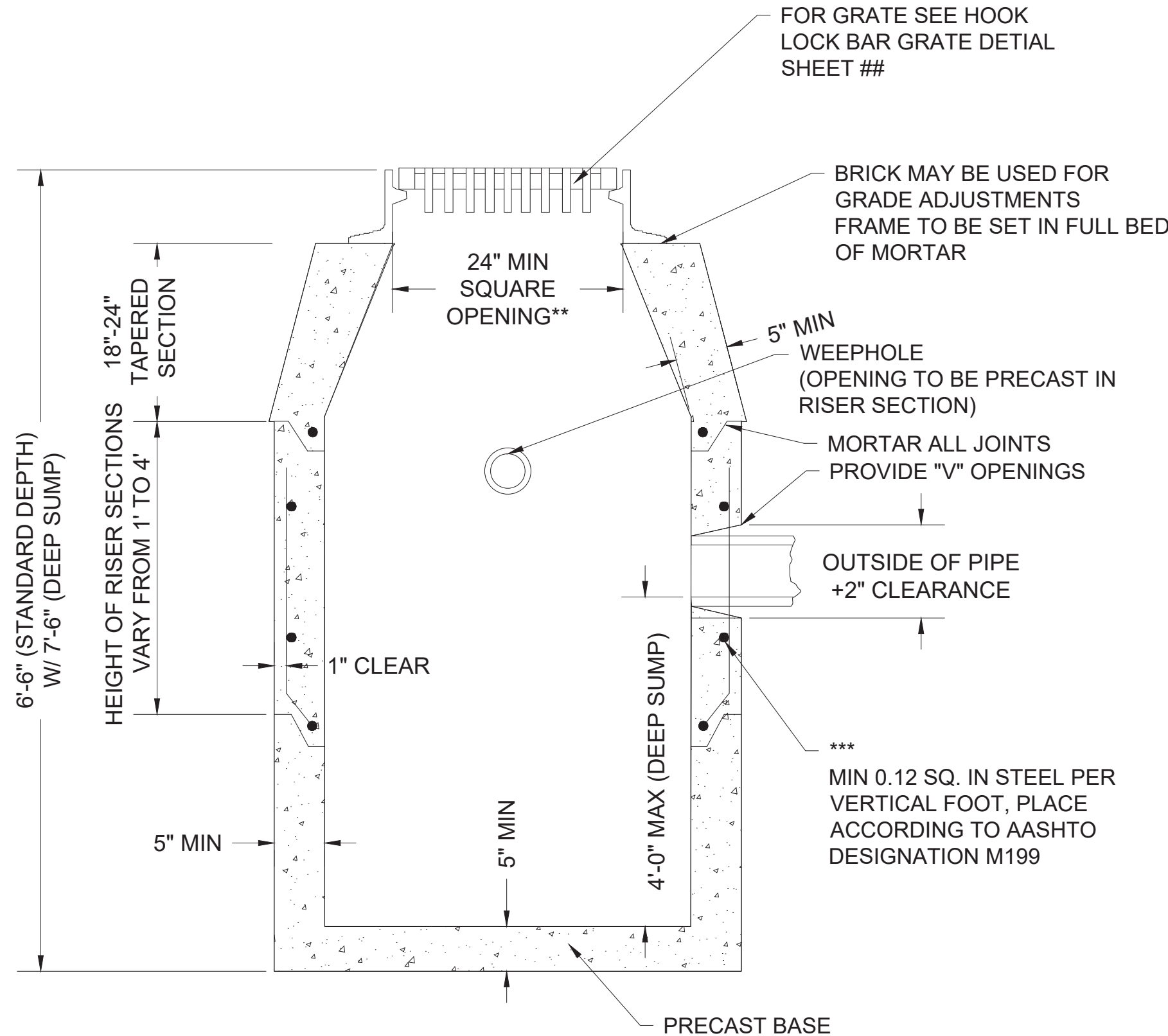
AREA DRAIN
NOT TO SCALE



INFILTRATION SWALE
NOT TO SCALE



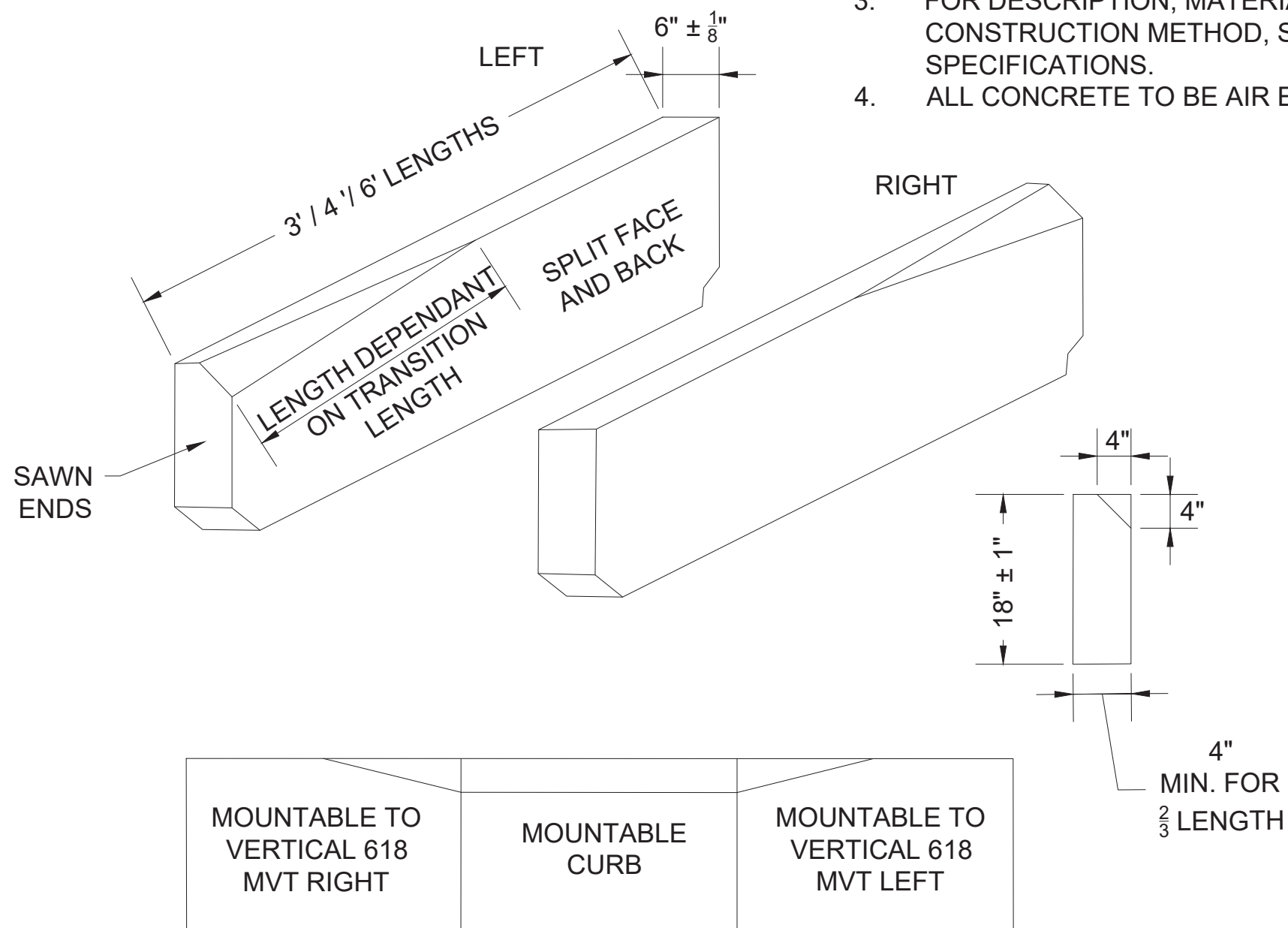
6" X 18" MOUNTABLE GRANITE CURBING STRAIGHT AND RADIUS
NOT TO SCALE



PRECAST CONCRETE CATCH BASIN
NOT TO SCALE

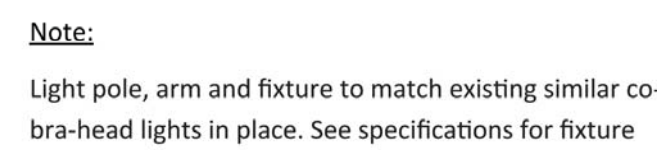
* MINIMUM DEPTH OF SUMP TO BE 2 FT
** WHEN A CURB INLET IS INSTALLED, THE OPENING IS TO BE 24"±1"X27"±1"
*** REINFORCING STEEL BASED ON A WALL THICKNESS OF 5"

NOTES:
1. DETAILS NOT INDICATED ABOVE ARE TO BE SIMILAR TO THOSE SHOWN ON E 201.3.0
2. FACE OF PIPE FLUSH OR NOT TO PROJECT MORE THAN 4" FROM FACE OF WALL ALONG CENTERLINE OF PIPE
3. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHOD, SEE STANDARD SPECIFICATIONS.
4. ALL CONCRETE TO BE AIR ENTRAINED.



6" X 18" MOUNTABLE TO VERTICAL TRANSITION CURB STRAIGHT AND RADIUS
NOT TO SCALE

PROFESSIONAL CERTIFICATION		REUSE OF DOCUMENTS				TOOLE DESIGN		MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT		CONSTRUCTION DETAILS		FINAL DESIGN	
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.		ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.				<div>2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com</div>						PROJECT NO.	60139
		DSGN	CBK									DATE	3/18/2020
		DR	RPI									DRAWING NO.	CD.03
		CHK	KMF									SHEET NO.	32 OF 39
APVD	ELG	NO.	DATE	REVISION		BY	APVD						



3/8" Plated Threaded Rod

11 Gauge Galvanized Spiral Wrap
4" Pitch

Spun Roadway
1-1/2" Minimum Diameter

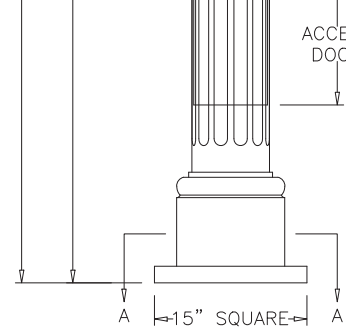
5/16" Prestress Cable
ASTM A-421, 250 KSI Min.

Aluminum Hand Hole
ASTM B-26

Fiber Reinforced, Air-Entrained
Concrete, 5/8" Minimum Coverage
over Reinforcement (7,000 PSI Min.)

Aluminum Collar/Tension
ASTM B-26

3/8" Plated Threaded Rod



LUMINAIRE

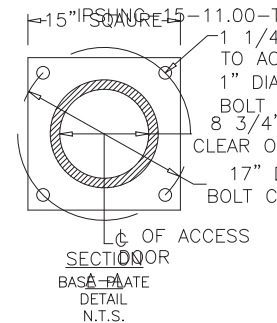
CATALOG NO: SEPPERSON
HEIGHT: 50 3/4"
SIZE: 15 3/8" SQUARE
MATERIAL: CAST ALUMINUM ALLOY A.N.S.I. 356, PER
GLOBE: A.S.T.M. B29-95
FINISH: POWDER COAT - RIVER TEXTURE GLOSS BLACK
VOLTAGE: 80 WATT LED CYCLOTRONIC
COLOR TEMP.: HIGHLY REGULATED FOR 120-277 VOLTS
4000K (MEDIUM WHITE)
SURGE: TYPE II REACTIVE OPTICS ASYMMETRIC
DISTRIBUTION
CATALOG NO: 10KW

LAMP POST

ALUM-MF MJ-LER08-EVX-203-40-CR3-YBBP-FJ-FU-C
SANCOC EXT. A.B. WITH LADDER REST
BASE: 11" DIA
SIZE: 15" SQUARE
SPEC: 1 BRACKET HEAVY WALL CAST IRON PER ASTM
A 48-83 CLASS 30
FINISH: PRIMER FINISH IN PINK PAINT SHERWIN
WILLIAMS ACROPLON FLAMIC BLACK
ACCESOR DOOR: LOCATED IN BASE SECURED WITH TAMPER
PROOF KEY SOCKET SECURITY MACHINE
SCREWS

GROUND STOP PROVISIONS:

DRILL AND TAP INSIDE WALL OF BASE OPTOS
ACCESS DOOR TO ACCOMMODATE A 1/4"-20
GROUND STUD (GROUND STUD SUPPLIED BY
BOLT PROJECTION) HOOKS
TENSILE:
(1) DIA X 30" LONG + 4" HOOK FULLY
GALVANIZED WITH 1 GALVANIZED NUT AND 1
GALVANIZED WASHER PER BOLT
(3) REQUIRED
(3) DIA X 3 1/2" HIGH (ABOVE LADDER REST)



FUSE(S) IN CKT. TO BALLAST WITH BUSS TYPE "KTK" FUSE(S) AND BUSS"TRON" HEB--AA WATERPROOF FUSE HOLDERS. SIZE FUSES AS REQUIRED BY LUMINAIRE MANUFACTURER--

CONNECT GROUND TO POLE BASE W/BURNDY NO. GB4C

BASE COVER

BUSH CONDUITS

1" CHAMFER

EXPANSION JOINT

EDGE OF SIDEWALK, CURB, STREET, PAVED AREA, BUILDING OR MISC. OBSTRUCTION

HAND HOLE - 4" X 6" (NOMINAL) (SEE NOTE 7)

PROJECT ANCHOR BOLTS 3" ABOVE TOP OF BASE. PROVIDE DOUBLE NUTS FOR LEVELING UNIT (ONE ABOVE AND ONE BELOW BASE FLANGE.)

GROUT RUB AND HAND FINISH ALL EXPOSED CONCRETE TOP AND SIDES

6" +/- ABOVE GRADE

STD. DUTY CONCRETE MAINTENANCE RING ENCRILING CONCRETE FOOTING (NOTE: OMIT CONCRETE MAINTENANCE RING IN NON-LAWN AREAS.)

FINISH GRADE

4"

4"

COMPACTED GRAVEL BASE

ANCHOR BOLTS TO BE FURNISHED BY POLE MANUFACTURER

REINFORCED CONCRETE BASE

HOME RUN C/W

HOME RUN C/W

PVC CONDUIT

18" DIA.

NO. 8 TW GREEN GROUND WIRE

5/8" X 8" COPPER WELD

GROUND ROD CLAMP BURNDY NO. GAR--644C

4 NO. 5 REBARS

WELD NO. 5 TIE RODS ALL AROUND @ 12" O.C.

- LIGHT BASE DETAIL - STREET LIGHT TYPE 2
- NOT TO SCALE

NO.

ATE

2

ION

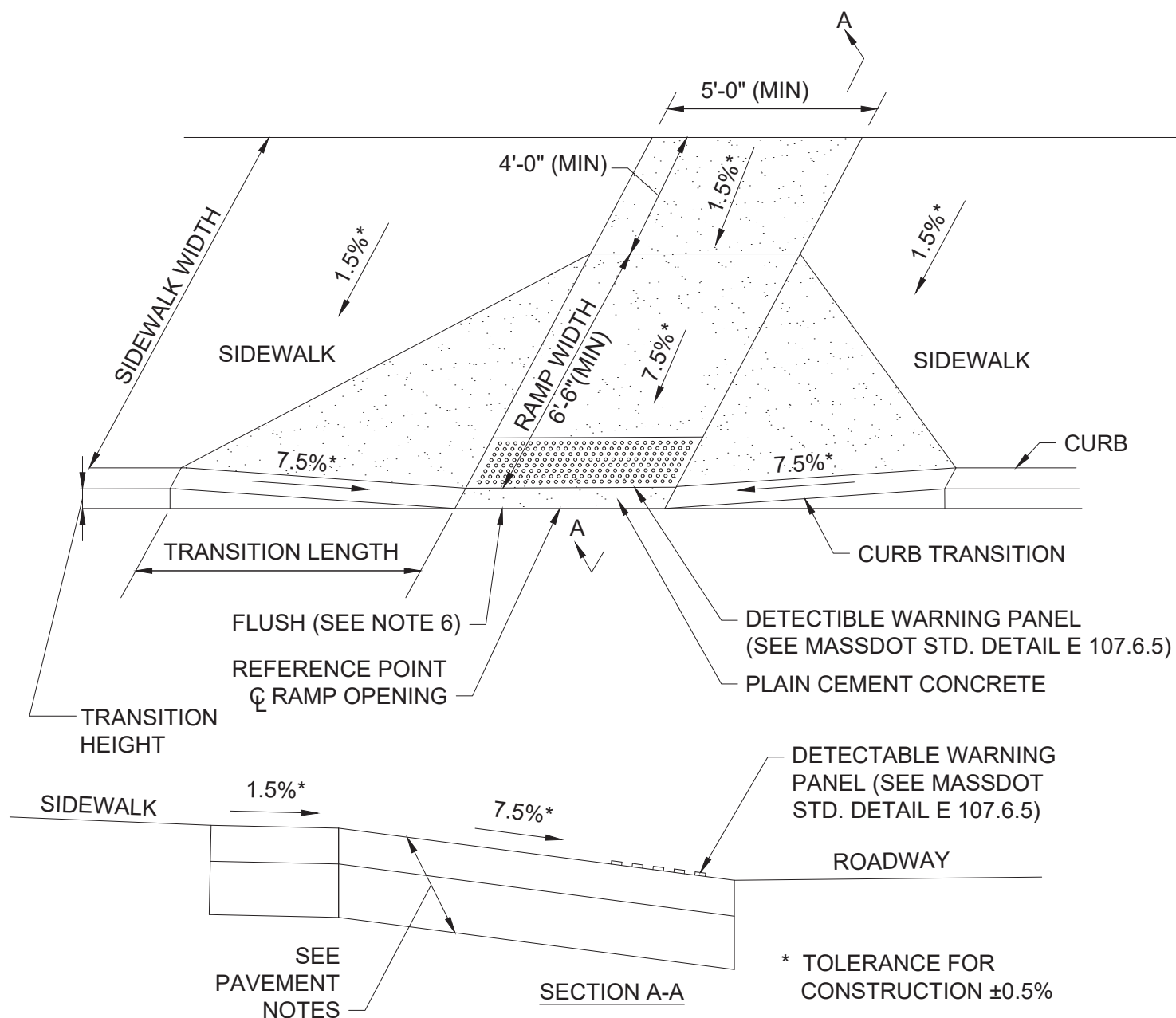
--	--

APV

1

OF 35

FINAL DESIGN

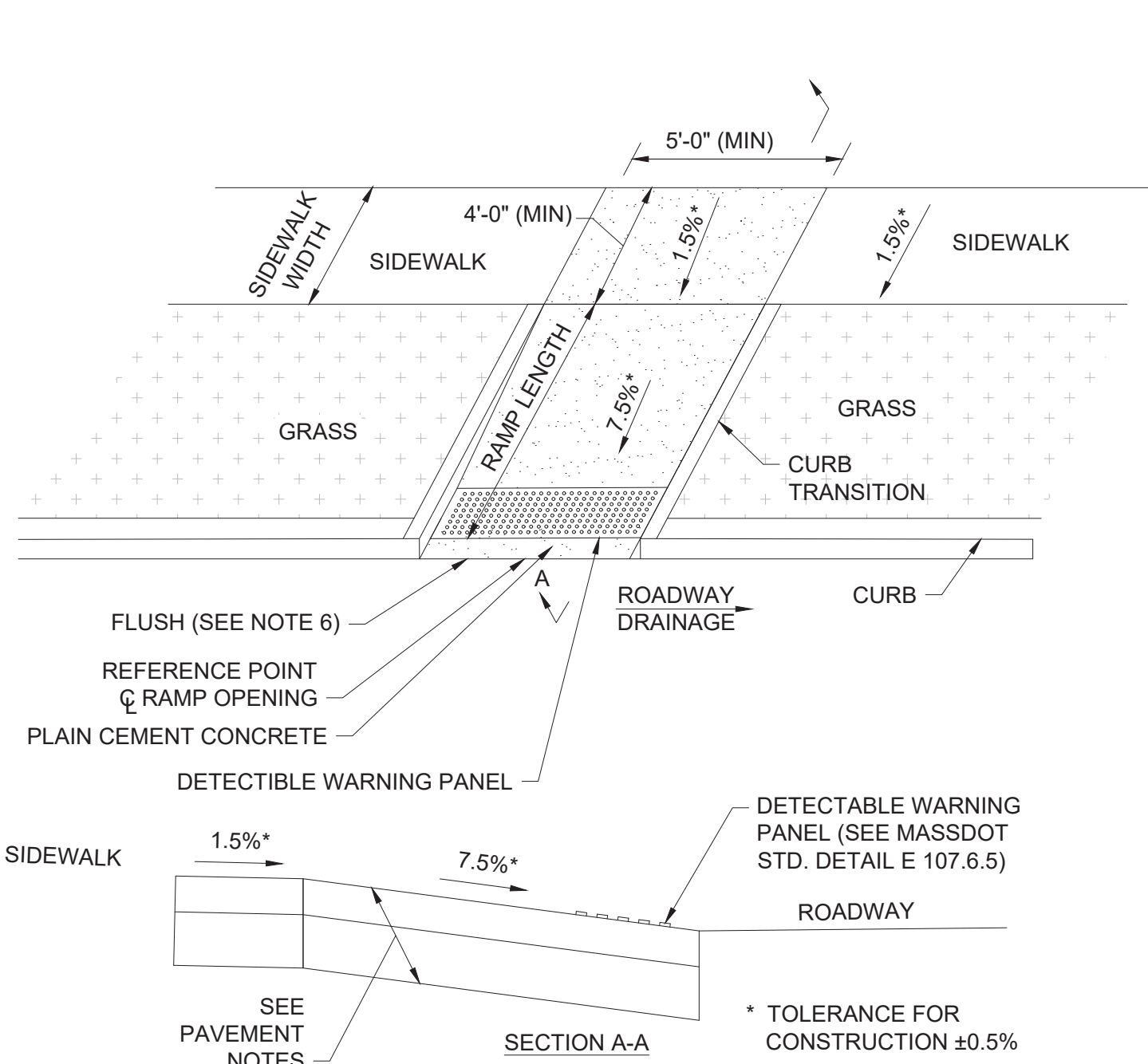


WHEELCHAIR RAMPS GREATER THAN 12'-4" SIDEWALK

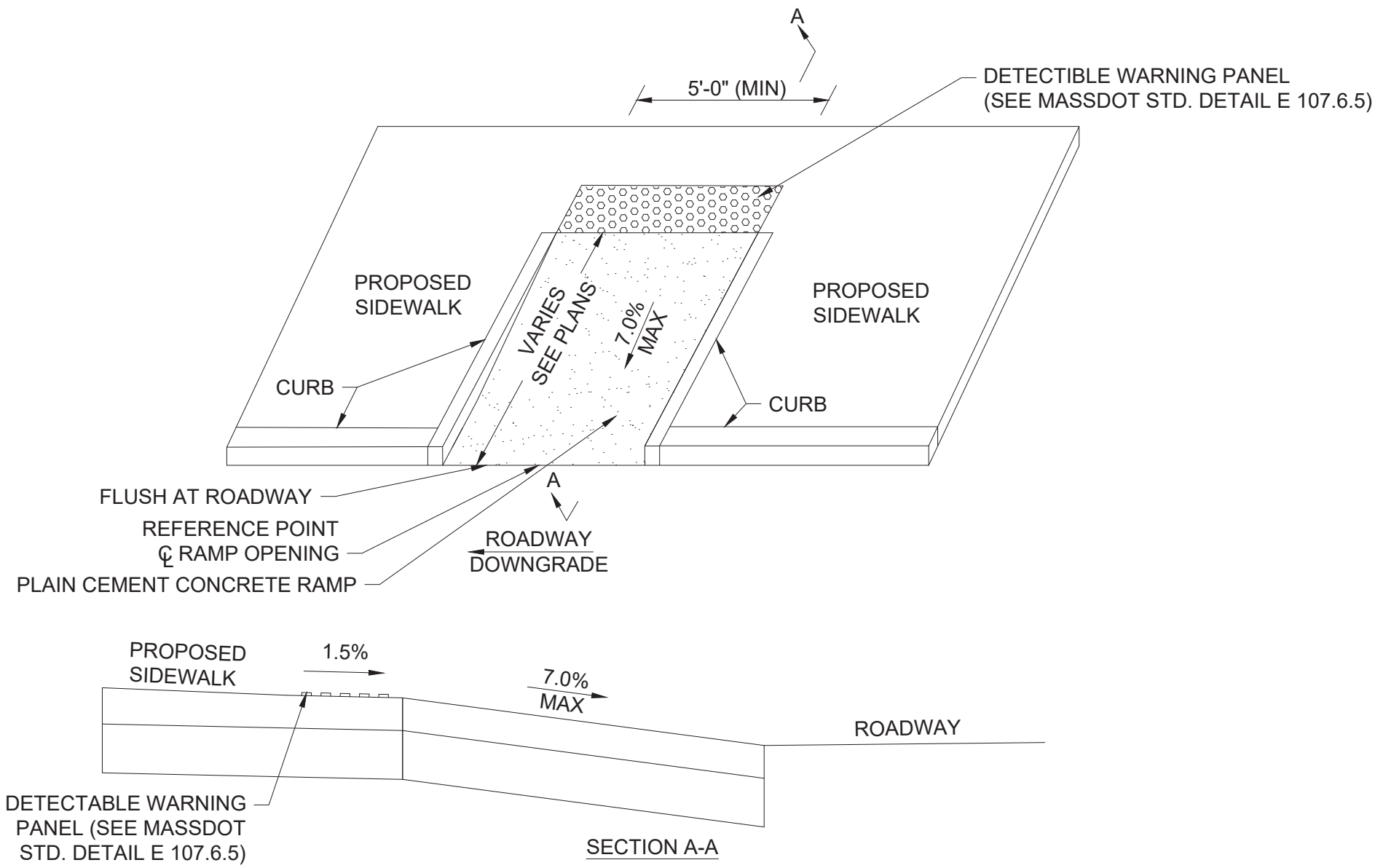
TYPE A
NOT TO SCALE

WHEELCHAIR RAMP NOTES:

1. MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE DESIGNED TO 4.5% ±0.5% (7.5% ±0.5% FOR CURB RAMPS)
2. A MINIMUM OF 3'-3" CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
3. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
4. RAMP, CURB AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
5. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5'x5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FT.
6. ELIMINATE CURBING AT RAMP WHERE IT ABUTS ROADWAY.
7. DETECTABLE WARNING PANELS ARE REQUIRED ON ALL OF THE PROPOSED WHEELCHAIR RAMPS AND ARE TO BE INSTALLED IN ACCORDANCE WITH CONSTRUCTION STANDARD E 107.6.5 (DECEMBER 2016). CONTRACTOR SHALL PROVIDE 6" BETWEEN DETECTABLE WARNING PANEL AND EDGE OF CONCRETE WHERE IT ABUTS LOAM & SEED.
8. ALL DETECTABLE WARNING PANELS SHALL BE RED.
9. WHEELCHAIR RAMP SLOPES AND CROSS SLOPES SHALL HAVE A CONSTRUCTION TOLERANCE OF ±0.5%.



WHEELCHAIR RAMP TYPE B
NOT TO SCALE



BICYCLE RAMP DETAIL

N.T.S.

ROADWAY PROFILE GRADE	HIGH SIDE TRANSITION LENGTH *
=0%	6'-6"
>0% TO 1%	7'-8"
>1% TO 2%	9'-0"
>2% TO 3%	11'-0"
>3% TO 4%	14'-0"
>4% TO 5%	15'-0" MAX

CURB TRANSITION LENGTH FOR
WHEELCHAIR RAMPS


* NOTE:
BASED ON A DESIGN SLOPE OF 7.5%
AND REVEAL OF 6".

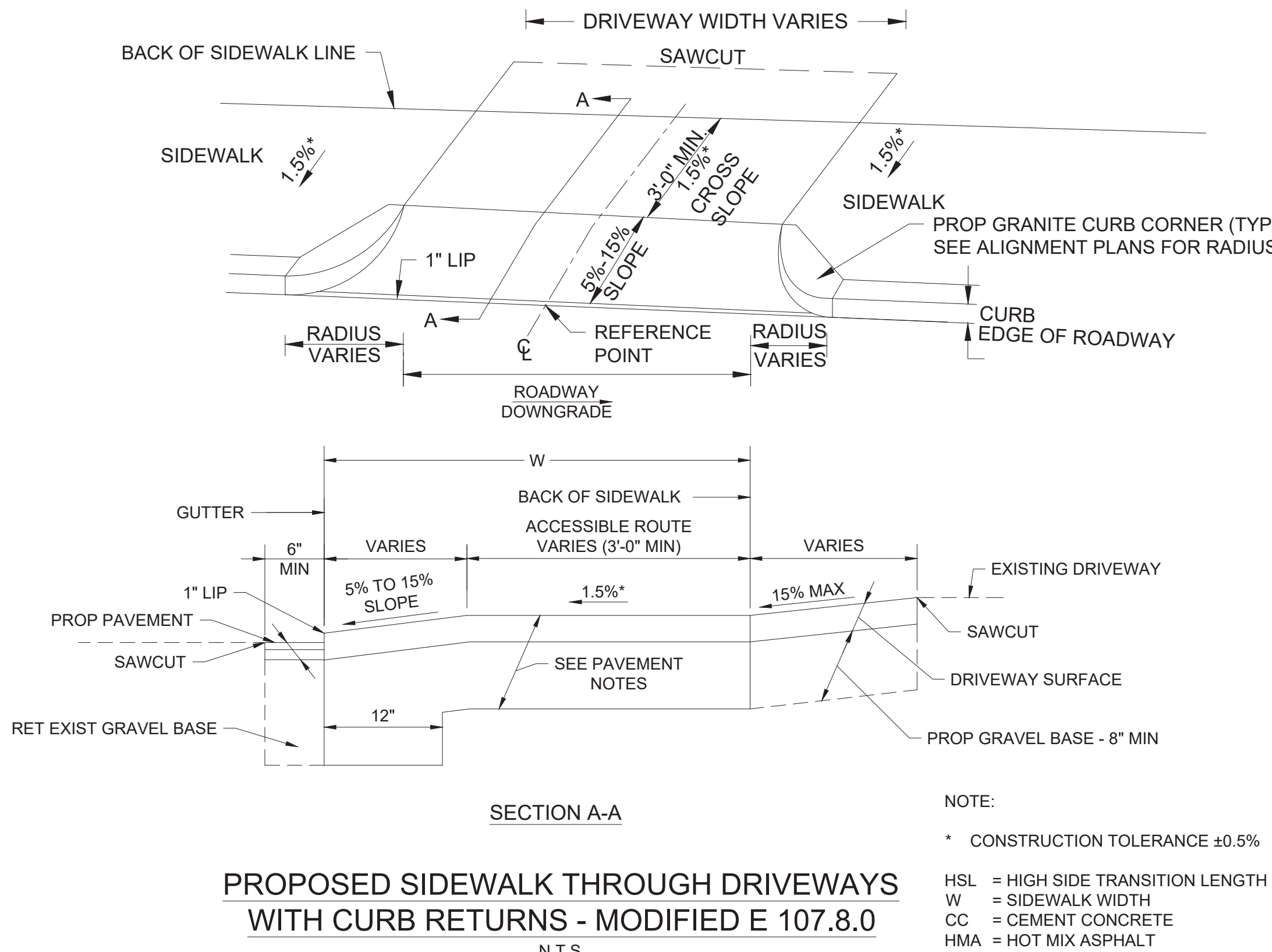
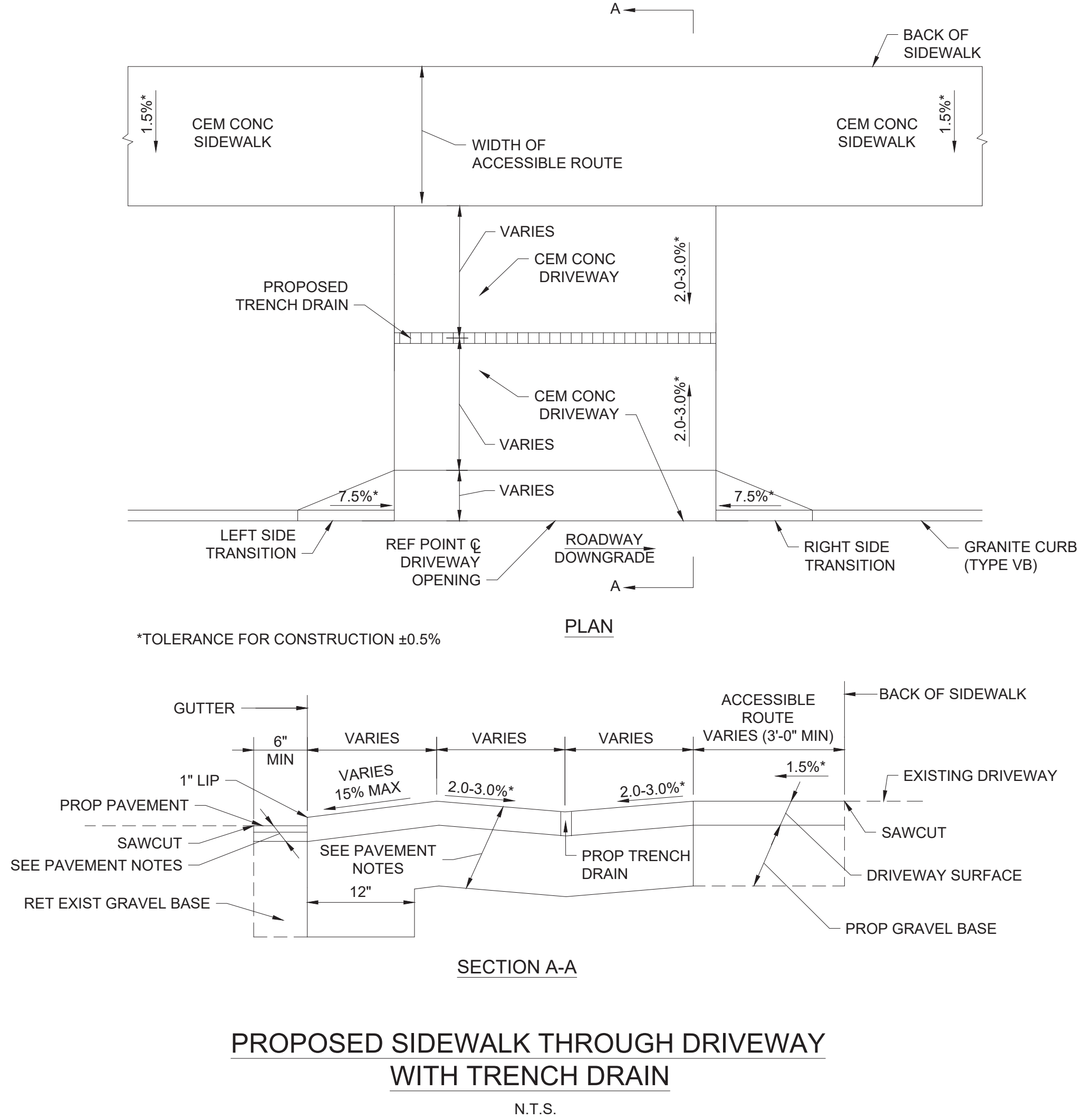
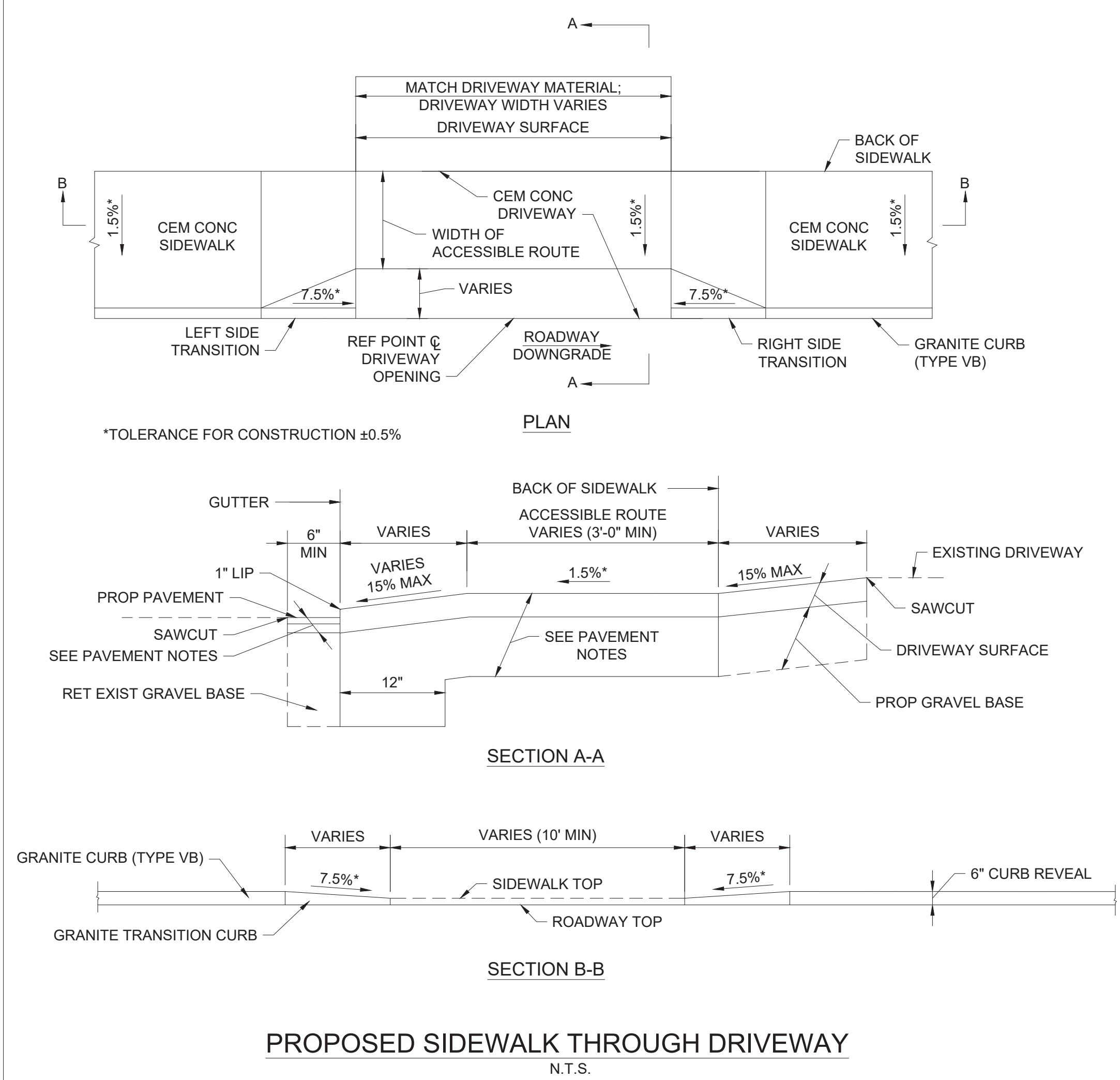
WCR DATA TABLE - MAIN AT WASHINGTON												
NUMBER	TYPE	STREET NAME	S/O REFERENCE		OPENING WIDTH (FT)	ROADWAY GUTTER SLOPE	RAMP LENGTH (FT)	SIDEWALK WIDTH (FT)	TRANSITION LEFT		TRANSITION RIGHT	
			STATION	OFFSET					LENGTH (FT)	REVEAL (IN)	LENGTH (FT)	REVEAL (IN)
1	A	MAIN STREET	14+03.24	16.01' LT	5.0	1.4%	9.0	13.0	6.5	5.0	6.5	6.0
2	A	MAIN STREET	13+23.88	16.01' LT	5.0	0.6%	7.5	12.5	6.5	5.3	6.5	6.0
3	B	MT. PLEASANT STREET	20+26.19	12.19' RT	6.0	0.50%	7.7	5.4	N/A	N/A	N/A	N/A
4	A	MT. PLEASANT STREET	20+25.05	11.58' LT	5.0	-1.20%	6.8	VARIES	5.0	6.0	7.0	4.8
5	A	MAIN STREET	13+23.90	15.99' RT	5.0	-1.0%	8.5	VARIES	6.5	6.0	6.5	5.3
6	A	WASHINGTON STREET	30+25.13	18.79' RT	5.0	1.4%	10.8	VARIES	6.6	5.2	10.5	6.0
7	A	WASHINGTON STREET	30+25.13	20.85' LT	5.0	-1.4%	11.5	VARIES	8.8	6.0	7.0	5.0
8	A	MAIN STREET	14+03.23	16.06' RT	5.0	-1.4%	8.5	VARIES	6.5	6.0	6.7	5.8

WCR DATA TABLE - MYSTIC VALLEY PARKWAY												
NUMBER	TYPE	STREET NAME	S/O REFERENCE		OPENING WIDTH (FT)	ROADWAY GUTTER SLOPE	RAMP LENGTH (FT)	SIDEWALK WIDTH (FT)	TRANSITION LEFT		TRANSITION RIGHT	
			STATION	OFFSET					LENGTH (FT)	REVEAL (IN)	LENGTH (FT)	REVEAL (IN)
1	A	MYSTIC VALLEY PARKWAY	11+38.72	38.85' RT	5.0	0.6%	8.8	VARIES	6.4	6.0	7.0	5.4
2	A	MYSTIC VALLEY PARKWAY	11+66.25	42.02' RT	5.0	1.2%	8.5	VARIES	6.6	5.8	6.5	6.0
3	A	MYSTIC VALLEY PARKWAY	11+93.53	16.00' RT	5.0	-0.6%	8.5	VARIES	6.5	4.0	7.0	4.0
4	A	MYSTIC VALLEY PARKWAY	11+93.53	16.00' LT	5.0	-0.8%	8.5	VARIES	6.5	4.0	6.5	4.0
5	A	WATERFIELD ROAD	20+87.80	16.65' RT	6.0	1.5%	6.0	VARIES	7.5	4.0	6.5	4.0
6	A	WATERFIELD ROAD	20+88.54	16.77' LT	6.0	-1.5%	10.1	VARIES	6.5	4.0	7.4	4.0
7	A	MYSTIC VALLEY PARKWAY	14+50.76	16.90' LT	5.0	0.6%	9.7	VARIES	6.5	4.0	8.9	4.0
8	A	MYSTIC VALLEY PARKWAY	14+54.62	26.16' RT	5.0	1.4%	8.7	VARIES	6.9	4.0	6.7	4.0

BICYCLE RAMP DATA TABLE - MAIN AT WASHINGTON												
NUMBER	TYPE	STREET NAME	S/O REFERENCE		OPENING WIDTH (FT)	ROADWAY GUTTER SLOPE	RAMP LENGTH (FT)	SIDEWALK WIDTH (FT)	TRANSITION LEFT		TRANSITION RIGHT	
			STATION	OFFSET					LENGTH (FT)	REVEAL (IN)	LENGTH (FT)	REVEAL (IN)
1	BR	MAIN STREET	12+94.34	16.32' LT	5.0	-0.6%	8.0	VARIES	N/A	N/A	N/A	N/A
2	BR	MAIN STREET	10+47.85	19.44' LT	6.0	-1.50%	8.8	VARIES	N/A	N/A	N/A	N/A

FINAL DESIGN

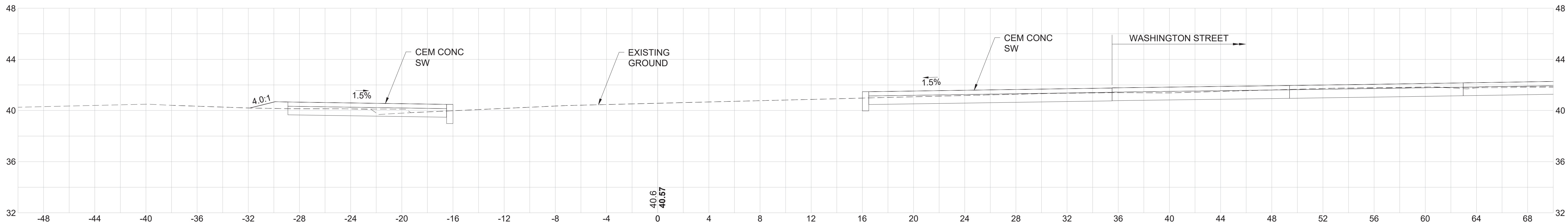
PROFESSIONAL CERTIFICATION		REUSE OF DOCUMENTS						<div>TOOLE DESIGN</div> <div>2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com</div>		MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT		PROJECT NO. 60139			
<div>I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.</div> <div></div>		ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.								WHEELCHAIR RAMP DETAILS		DATE 3/18/2020			
		DSGN		CBK								DRAWING NO. CD.05			
		DR		RPI								SHEET NO. 34 OF 39			
		CHK		KMF											
		APVD		ELG		NO.		DATE		REVISION		BY		APVD	



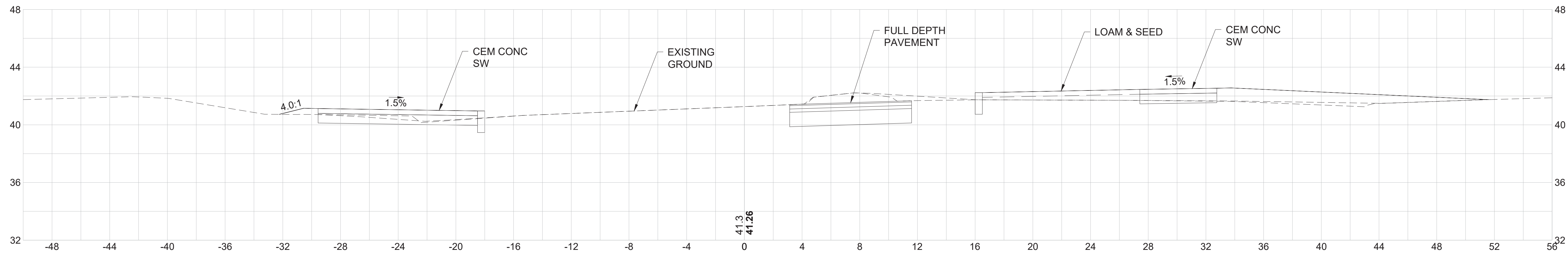
DRIVEWAY DATA												
NUMBER	STREET NAME	DRIVEWAY SURFACE	DRIVEWAY REFERENCE		WIDTH (FT)	ROADWAY GUTTER SLOPE	WIDTH OF SW (FT)	WIDTH OF ACCESSIBLE ROUTE	TRANSITION LEFT		TRANSITION RIGHT	
			STATION	OFFSET					LENGTH	REVEAL	LENGTH	REVEAL
1	MAIN STREET	CEM CONC	11+60.29	16.18' RT	15.9	-0.94%	11.1	7.2	3.9	4.0	6.5	4.8
2	WASHINGTON STREET	CEM CONC	30+84.92	15.75' RT	13.4	2.98%	6.0	6.0	6.5	5.0	6.5	4.4
3	WASHINGTON STREET	CEM CONC	31+93.91	23.36' RT	10.0	2.47%	5.6	5.6	N/A	6.0	N/A	6.0
1	MYSTIC VALLEY PARKWAY	CEM CONC	12+24.26	16.00' RT	25.5	0.67%	6.7	6.7	6.0	4.0	5.2	4.6

MAIN STREET

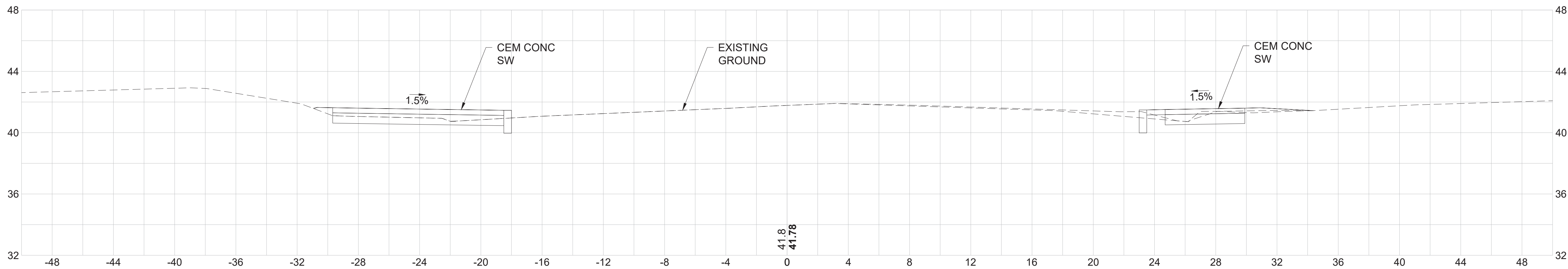
13+25



12+50



12+00



FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE COMMONWEALTH OF
MASSACHUSETTS,
LICENSE NO. 49208,
EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT.
REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK				
DR	RPI				
CHK	KMF				
APVD	ELG	NO.	DATE	REVISION	BY APVD

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

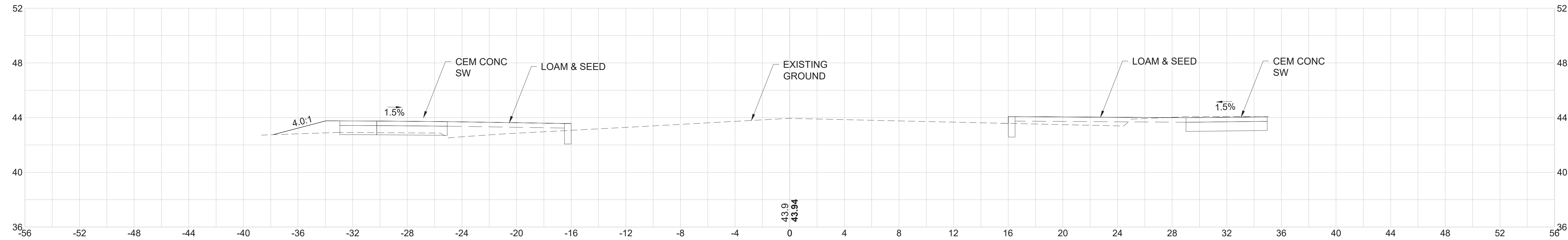
MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MAIN STREET AT WASHINGTON STREET
CRITICAL CROSS SECTIONS

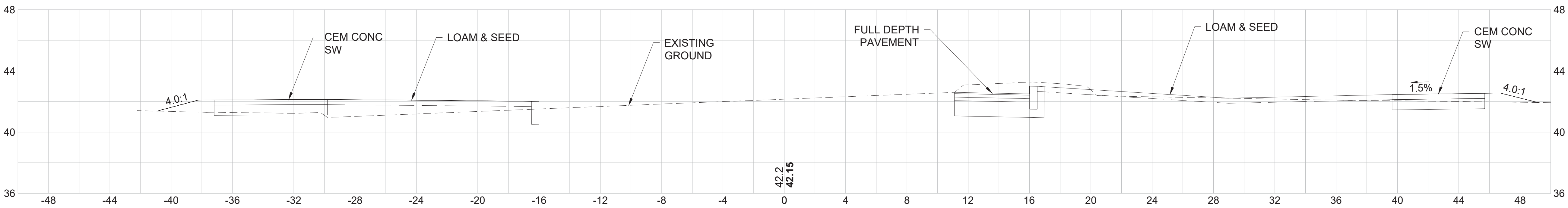
PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	CS.01
SHEET NO.	36 OF 39

WASHINGTON STREET

31+15

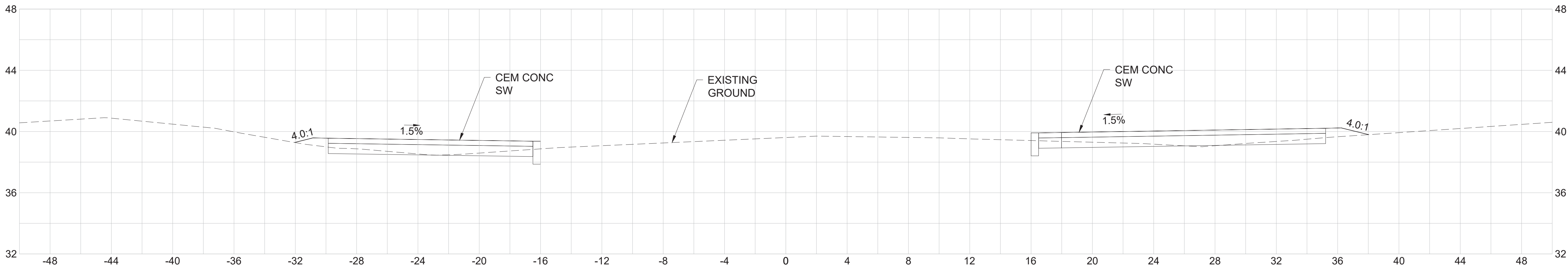


30+75



MAIN STREET

14+25



FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE COMMONWEALTH OF
MASSACHUSETTS,
LICENSE NO. 49208,
EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT.
REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK				
DR	RPI				
CHK	KMF				
APVD	ELG	NO.	DATE	REVISION	BY APVD

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

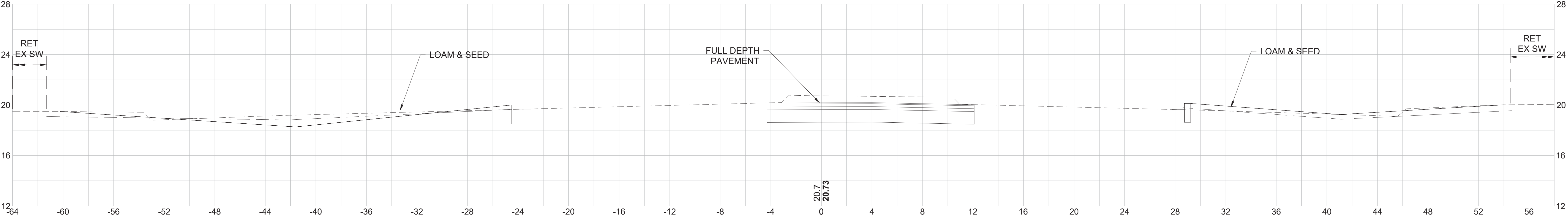
MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MAIN STREET AT WASHINGTON STREET
CRITICAL CROSS SECTIONS

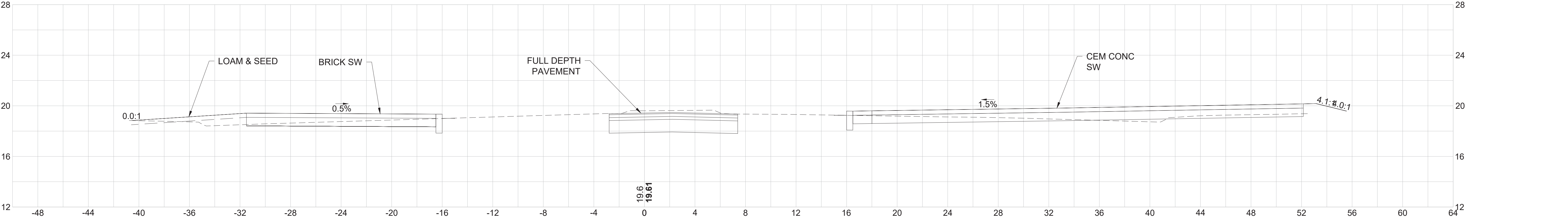
PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	CS.02
SHEET NO.	37 OF 39

MYSTIC VALLEY PARKWAY

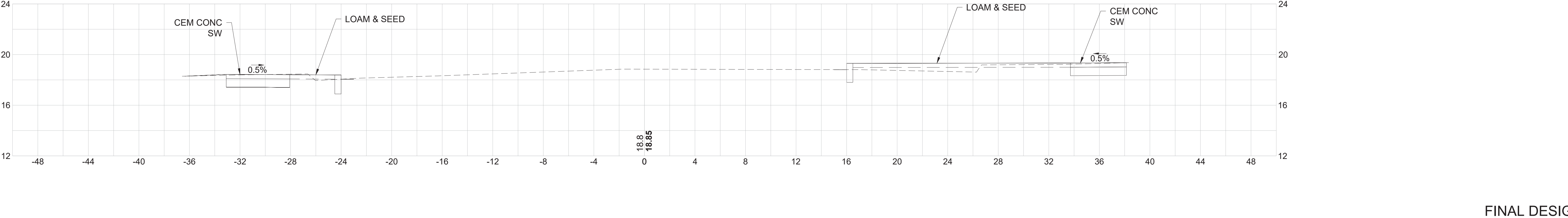
13+25



12+00



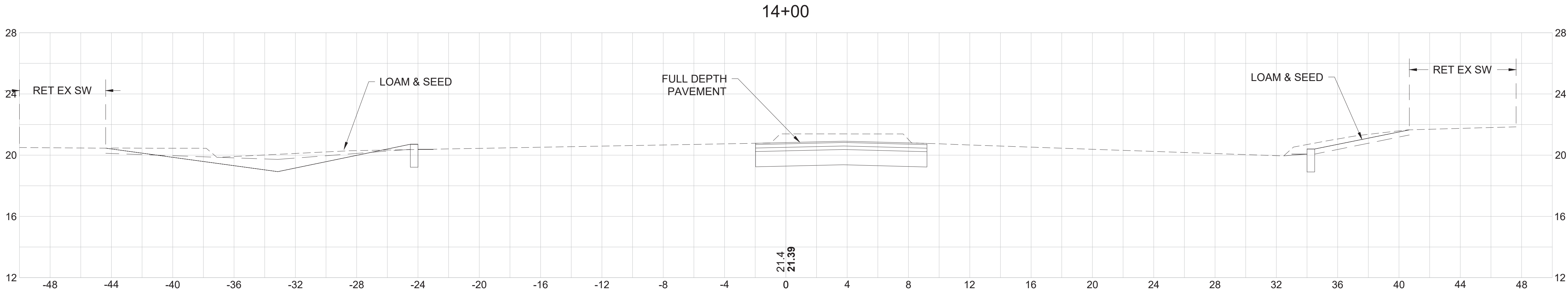
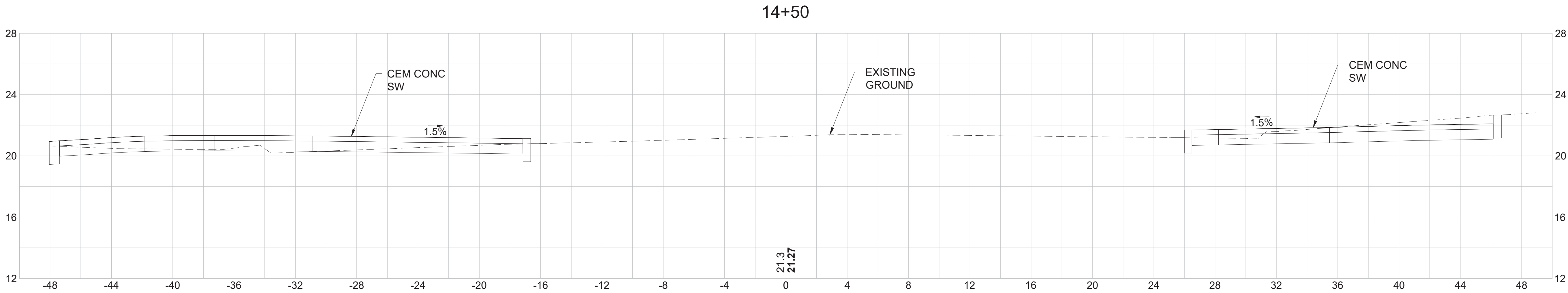
11+00



FINAL DESIGN

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, LICENSE NO. 49208, EXPIRATION DATE: 6/30/2020.		REUSE OF DOCUMENTS ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.										<div><div>TOOLE DESIGN</div><div>2 OLIVER STREET, SUITE 305 BOSTON, MA 02109 PHONE: 617.619.9910 FAX: 301.927.2800 www.tooledesign.com</div></div> <div>MCCALL MIDDLE SCHOOL TRAFFIC IMPROVEMENT PROJECT</div>		MYSTIC VALLEY PARKWAY CRITICAL CROSS SECTIONS				PROJECT NO.		60139	
		DSGN		CBK						DATE								3/18/2020			
		DR		RPI						DRAWING NO.								CS.03			
		CHK		KMF						SHEET NO.								38 OF 39			
		APVD		ELG		NO.		DATE		REVISION								BY		APVD	

MYSTIC VALLEY PARKWAY



FINAL DESIGN

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED OR APPROVED BY
ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE COMMONWEALTH OF
MASSACHUSETTS,
LICENSE NO. 49208,
EXPIRATION DATE: 6/30/2020.



REUSE OF DOCUMENTS

ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT.
REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.

DSGN	CBK						
DR	RPI						
CHK	KMF						
APVD	ELG						
NO.	DATE	REVISION				BY	APVD

TOOLE
DESIGN

2 OLIVER STREET, SUITE 305
BOSTON, MA 02109
PHONE: 617.619.9910
FAX: 301.927.2800
www.tooledesign.com

MCCALL MIDDLE SCHOOL
TRAFFIC IMPROVEMENT PROJECT

MYSTIC VALLEY PARKWAY
CRITICAL CROSS SECTIONS

PROJECT NO.	60139
DATE	3/18/2020
DRAWING NO.	CS.04
SHEET NO.	39 OF 39